Semi-Annual Environmental Monitoring Report

Project No.: 3416-KAZ
Reporting Period: January-June 2020

REPUBLIC OF KAZAKHSTAN: CAREC CORRIDORS 1 AND 6 CONNECTOR "AKTOBE-MAKAT" ROAD RECONSTRUCTION PROJECT (SECTION KM160-330)

Funded by ASIAN DEVELOPMENT BANK

Prepared by 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

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Approved by: PMC JSC "NC "KazAvtoZhol" – Zeinullina A.A. _____
(PMC employee name) and signature, report submission date

CONTENT

ABBREVIATIONS

RK	-	Republic of Kazakhstan
MIID	-	Ministry of Industry and Infrastructure Development
CoR	-	Committee of Roads
KAZh	-	JSC “NC “KazAvtoZhol”
ADB	-	Asian Development Bank
CAREC	-	Central Asian Regional Economic Cooperation
PMC	-	Project Manager Consultant
CSC	-	Construction Supervision Consultant
RSE	-	Republic State Enterprise
ECP	-	Environmental Control Program
EMP		Environmental Management Plan
PEM	-	Plan of Environmental Monitoring
IEM	-	Industrial Environmental Monitoring (carried out by an accredited laboratory)
EMP	-	Environmental Management Plan
SSEMP		Site Specific Environmental Management Plan
HSP		Health and safety plan
MPC	-	Maximum Permissible Concentration
MPL	-	Maximum Permissible Level
SAEMR		Semi-annual Environmental Monitoring Report
SHS	-	Sanitary-Hygienic Standard
RD		Regulatory Document
GCC	-	General Contract Conditions
SPZ	-	Sanitary Protection Zone
SZ	-	Settlement Zone
WC	-	Sanitary and Hygienic Unit
MSW	-	Municipal Solid Waste
HS	-	Health and Safety
FL	-	Fuel and Lubricants
RTS	-	Road-Traffic Safety
RMD	-	Road Maintenance Depot

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 for the first half of 2020 is the fifth report from the beginning of the project.

1.2 Key information

2. In accordance with the Decree of the Government of the Republic of Kazakhstan No. 131 dated March 19, 2019 “On the reorganization of some republican state institutions”, the RSE was established under the right of economic management of the “National Center for Quality of Road Assets” COR MIID. The main activities of this structure are the examination of the work and materials quality during construction, reconstruction, repair and maintenance of roads, as well as the management of road assets.
3. COR MIID assigns NC KazAvtoZhol JSC, which is the National Highway Operator, to serve as the Employer's Personal functions since 11.04.2019 on road projects, replacing the previously performed this function of RSE “ZholLaboratory”
4. In the previous report for the second half of 2019 was noted about forced measure from the Employer to conclude an additional agreement for Lot 2 dated April 29, 2019 which indicates measures to build Contractor’s potential in order to bring the planned indicators of physical progress. In June, the Contractor demonstrated certain indicators, showing reduction in the delay of planned work on the project. This acceleration of work was also subsequently in the second half of this year. Concern about the pace of work in this area still remain. But not so critical.

2 PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

5. 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.

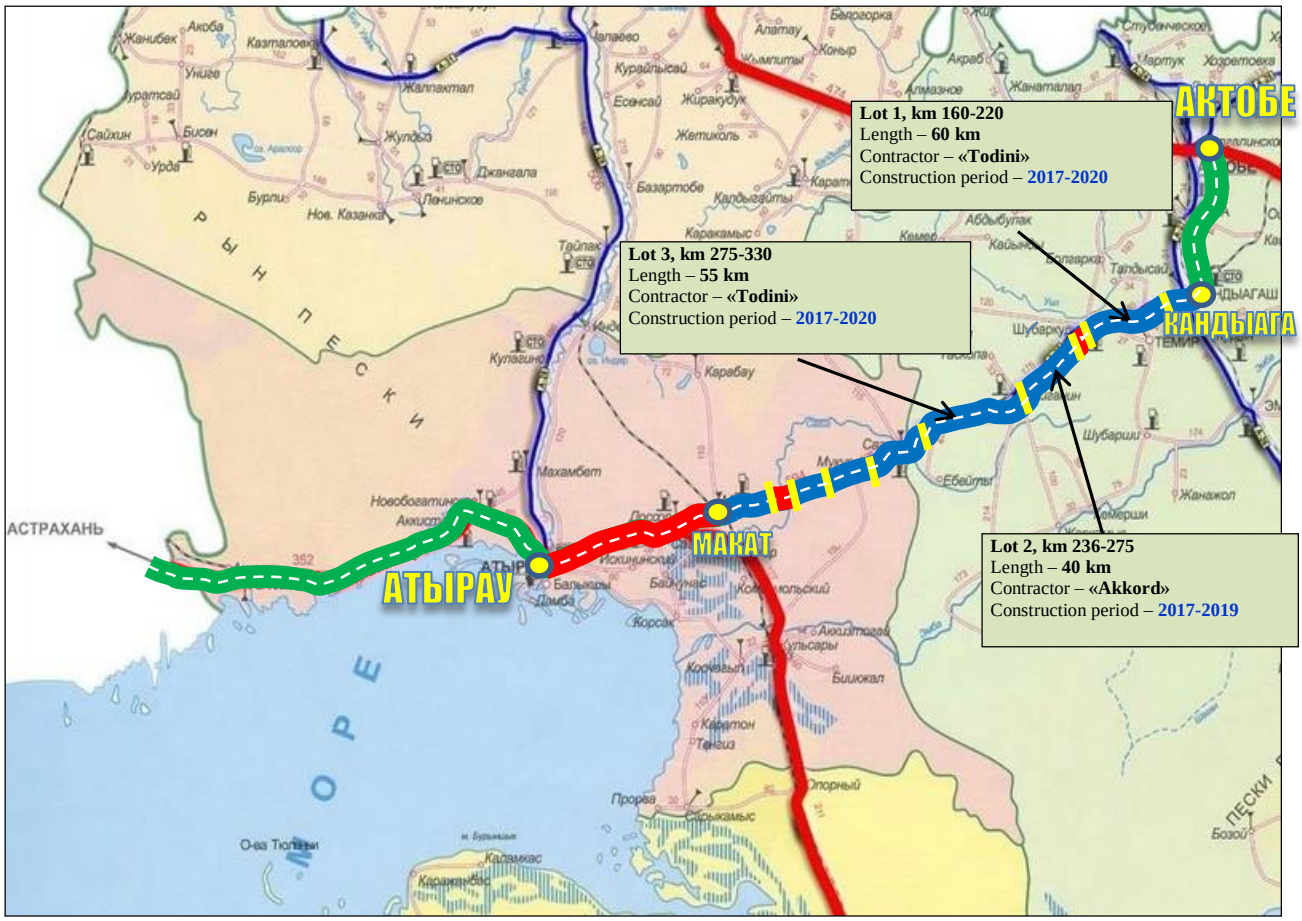


Figure 1. Location of project road

6. The project is financed by the Asian Development Bank (ADB) in the framework of loan 3416. ADB and the Government of the Republic of Kazakhstan jointly finance this project in the ratio of 88% to 12%.

7. The proposed project includes reconstruction of the 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.

8. 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.

9. 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 will be reflected in a separate report.

Table№ 1. Main characteristics of the project

Project components	**Lot 1**	**Lot 2**	**Lot 3**
Contractor	JSC “Todini Costruzioni Generali S.p.A.” (Italy).	OJSC “ICICAkkord” (Azerbaijan).	JSC “Todini Costruzioni Generali S.p.A.” (Italy).
Subcontractor approved by the Engineer	Seni Medas Stroy	-	Seni Medas Stroy
Location	km 160-220	km 236-275	km 275-330
Length	60,8 km	40,1 km	55,0 km
Road category	II категория		
Pavement	Highly Porous Asphalt Concrete Coarse-Grained Porous Asphalt Concrete SMA-20		
Number of lanes	1/1		
Lane width Shoulder width	3,75 meters 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 shelters	6	8	2
Designed standarts: Designed speed Width of the right of way	120 km/h 100 meters		

10. Lot 1: Km160 - km220 (Shubarkuduk - Karauylkeldy 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.

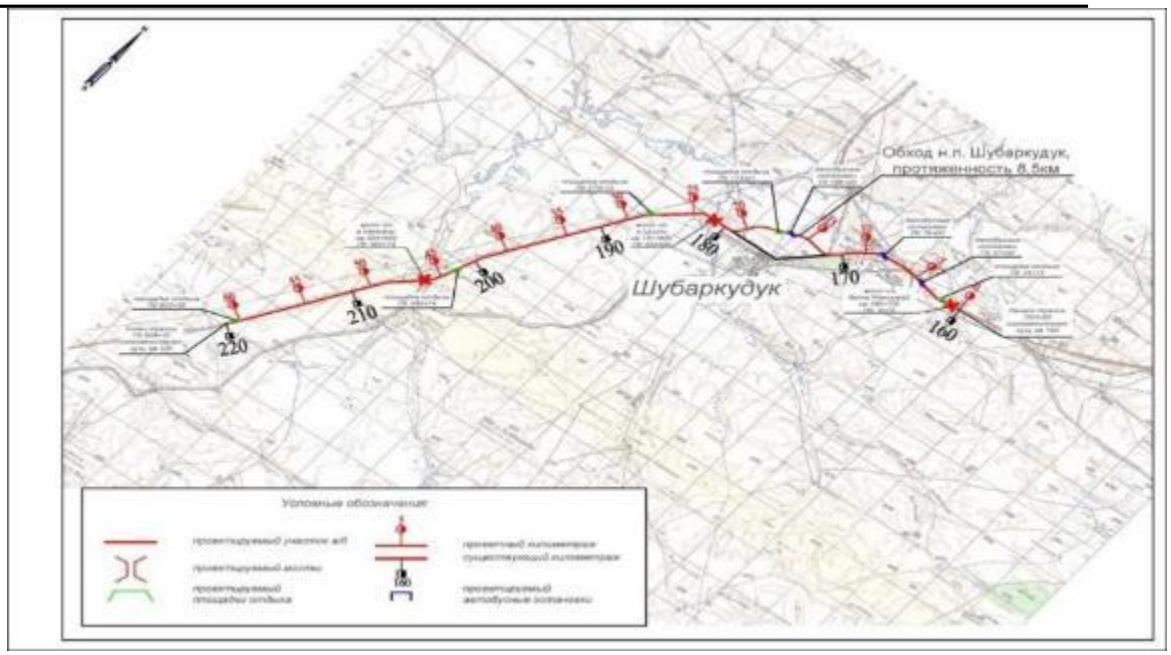


Figure 2. Lot 1 section scheme

11. Lot 2: km 236 - km 275 (Karauylkeldy 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 Karauylkeldi (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 Figureure 3 shows the scheme of the lot 2.

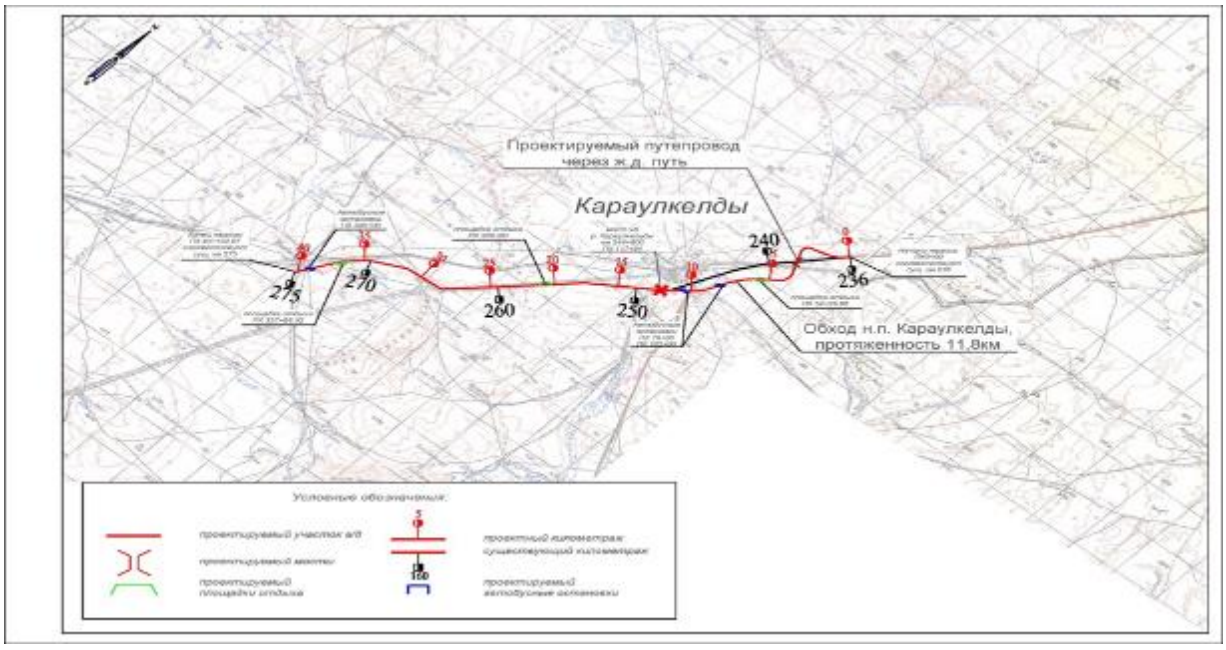


Figure 3. Lot 2 section scheme.

12. Lot 3: km 275 - km 330 (Zharly v.– Nogaity v.): 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

13. COR MID entered into 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.
14. 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.
15. 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 in Table 1 below.

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 of Roads	Ruslan Kusainov	Nur-Sultan 010000/ Transport tower/ Kabanbai Batyr st. 32/1 8 778 668 70 06 r.kusainov@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
PMC JSC "NC" KazAvtoZhol"	Zeinullina Aliya Amantaevna Social and safeguards measures specialist	+ 7 701 982 66 57 a.zeinullina@kazautozhol.kz
CSC DONGSUNG ENGINEERING CJ., LTD/ LLP "ZS ENGINEERING "	Imbarova Sara Environmental and safeguards measures specialist	+7 702 268 98 08 aktobe_kns1@mail.ru
JSC "Todini Kostruktsioni 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
OJSC "ICIC Akkord" (Azerbaijan) for lot 2	Anuar Embergenov Environmental engineer Askarov Edil Health and safety specialist	Aktobe region Bayganin district Karaulkeldy village, Kozhabay Zhazykov St., 2 A +7 701 484 08 68 +7 701 082 71 73

16. 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	25.09.2020** (1032 days)
OJSC “ICIC Akkord” (Azerbaijan)	№ 002-ADB/CW-2017	236 -275	39	16.08.2017	28.11.2017	20.08.2020* (996 days)
JSC “Todini Costruzioni Generali S.p.A.” (Italy)	№ 003-ADB/CW-2017	275-330	55	07.09.2017	28.11.2018	20.09. 2020** (1027 days)

* Based on the Engineer's letter No. ATB2-1866 dated 23.01.2020 and no objections in the ADB letter regarding extension of the contract No. 002-ADB/CW-2017 (Lot 2 - Akkord) from 26.01.2020 until 20.08.2020)

** In accordance with the amicable agreement between the Employer and the Contractor Lot 1 and Lot 3, concluded on November 28, 2019. The period of the Contract for Lot 1 and Lot 3 meet the requirements of the table, the extension lasts 60 and 85 days)

17. The Figure 5 below shows the organization chart of interaction between the structures of the Project

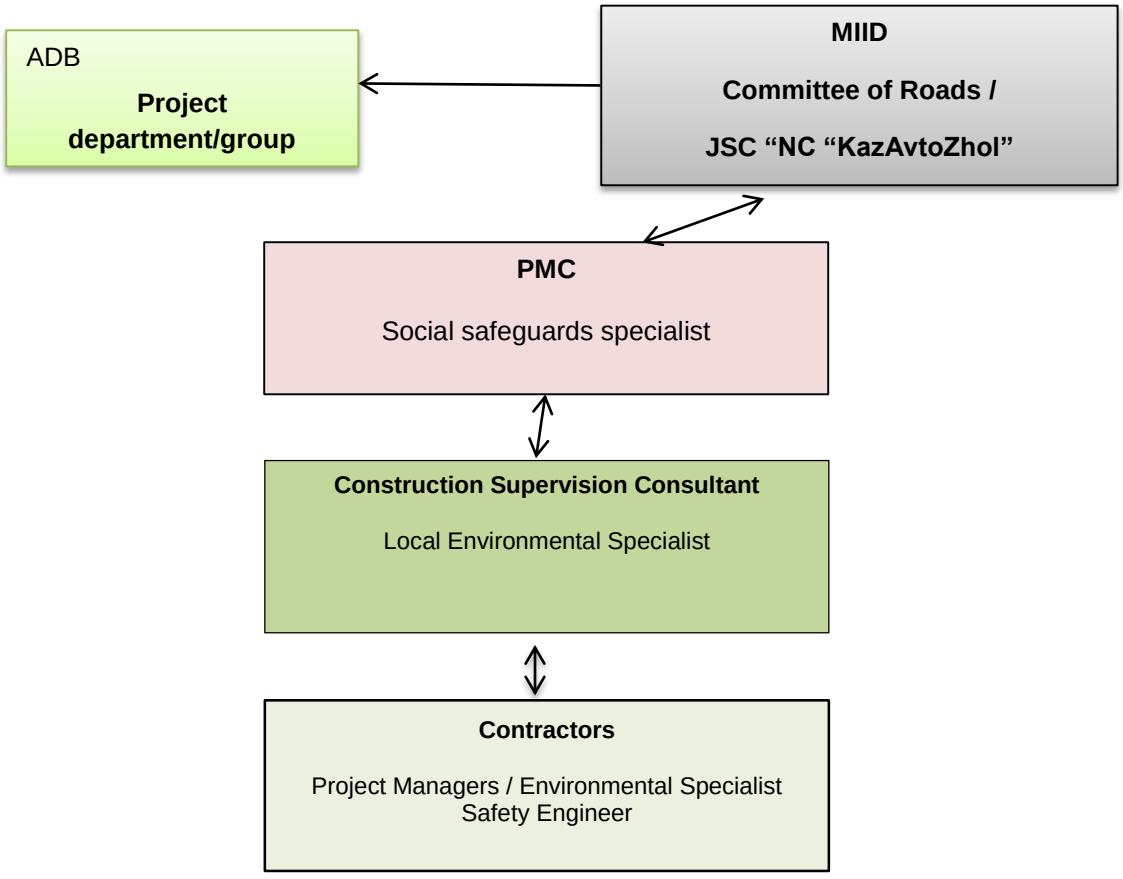


Figure 5. Organization chart of project coordination

2.3 Project Activities During Current Reporting Period

18. The following types of work were performed on Lot 1 during the reporting period: binder course Km 206+450-220+32,base course Km 211+200- 220+32, subbase at Km 211+500-220+32, geotextile Km 211+500-220+32, culverts installation at Km 218+834, bridges and overpasses on Km 160+541, 182+306, 205+586.
19. During the reporting period Lot 1, by status as of June 30, employs 175 people on the project. The subcontracting organization has 10 people.
20. 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 (km 160 -220)	cost	Mln. tg	11 396,3	8 913,60	1 790,26	78,12	21,88%
	Wearing course	Km	60,8	44,075	14,973	97,80%	2,20%
	Binder course	Km	60,8	50,19	9,59	99,10%	0,90%
	Base course	Km	60,8	51,020	9,37	99,70%	0,30%
	additional layer (geotextyle)	Km	60	51,020	9,37	99,70%	0,30%
	Subgrade	thou m^3	1 789,587	1 773,587	37,48	99%	1%
	Culvert	pcs	34	31	1	94,50%	5,5%
	bridges and overpass	pcs	3	2,10	0,30	80%	20%
	RMD	pcs	1	0,59	0,01	60%	40%
	% execution of construction works	**%**	**100**	**60,30**	**17,82**	**78,12%**	**21,88%**

21. The following works were executed on the Lot 2 section during reporting period: procurement of materials: Crushed stone -76.71 m3, concrete products -100%, Bitumen – 0.62 thousand tons. Cement – 0.13 thousand ton. Earthworks from Km 236 to Km 275, base layer of C4 (mix of crushed stone and sand) on the sections CH 35+10 – 38+90 (0,32km), CH 95+40–98+00 (0,26km), CH 99+40–111+00 (1,16km). Asphalt concrete works (highly porous and porous) on CH 3,540 (0,24км), CH 106+60 – 114+60 (0,8km), (porous) CH 118+10-23+60 (0,55) CH 35+30-37+70 (0,24km), CH 48+40-51+00 (0,26km), CH 06+70-110+80 (0,4км)
22. On the Overpass Km 238 + 75, work was carried out on the installation of spans and approach slabs. As well as concreting between beams and approach slabs. Deck slab concreting completed. Preparation of the overpass surface for prime coat.
23. Artificial structures, during the reporting period on the Bridge Km 246+65 no works were carried out. Backfilling of culverts on km 10,640 and 9,500 was carried out. Completed the full scope of work of RMD construction.
24. During the reporting period, Lot 2, as of June 30, 158 people were mobilized.

25. Table 5 below provides data on the status of construction work for the reporting period on Lot 2.

Table 5. Status of construction work for the reporting period for Lot 2

Contractor & section	type of work	unit	total in the contract	executed in 2017-2019	executed in 2020	% of execution	Balance
AKKORD Lot 2 (км 236-275)	cost	mln tg	8 012,31	5 834, 252	338,872	73	27
	Wearing course	km	40,1	33,04	1,84	87	13
	Binder course	km	40,1	34,5	1,34	89,4	10,6
	Base course	km	40,1	34,89	1,74	91,4	8,6
	additional layer (Geotextile)	km	40,1	34,95	2,3	92,9	7.1
	Subgrade	thou m3	1 699,49	1565,75	57.96	98	2
	Culvert	pcs	33	33	0	100	0
	bridges and overpass	pcs	2	1.78	0,12	94.6	5.4
	RMD	pcs	1	0	0	0	100
	% execution of construction works	%	100	14,68	58,14	72,82	27,18

26. The following types of construction work were carried out on Lot 3: base course Km 309+60-324,5, sub-base Km 306+50+326+00, additional layer (geotextile) Km 335+10-32+60, subgrade Km 328+50-328+90, installation of all culverts in the amount of 22 pieces was completed, work on bridges and overpasses on Km 289+029, Km 303+809 and Km 321+420. RMD construction works Km 302+00.
27. During the reporting period, 3 persons are mobilized on Lot 3. The subcontractor mobilized 251 people.
28. Table 6 below provides 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 (км 275-330)	cost	mln tg	9 878,0	4 623,398	1 853,147	64,17	35,83
	Wearing course	Km	55,142	26,72	3,63	55,04	45,04
	Binder course	km	55,142	28,58	14,88	78,81	21,19
	Base course	km	55,142	31,24	16,03	85,72	14,28
	additional layer (geotextyle)	km	55,142	33,29	20,23	97,06	2,94
	Subgrade	thou m^3	1 293	1234,22	9,5	96,17	3,82
	Culvert	pcs	22	22	0	100	0
	bridges and overpass	pcs	3	2,14	0,35	83	17
	RMD	pcs	1	0,48	0,03	0,51	49
	% execution of construction works	**%**	**100**	40,2	23,2	63,4	36,6

29. There is a significant delay from the planned calendar work on all lots. The delay is especially pronounced on Lot 1 and Lot 3. One of the reasons is the negative impact of an external factor: the COVID 19 coronavirus pandemic, which has noticeably slowed down the pace of personnel mobilization and provision of the necessary resources. Contractor's management and CSC engineers are taking measures to reduce delays from plans.

2.4 Description of Any Design Changes

30. During the reporting period in July Lot 1 submitted 1 request for variation orders . Variation Order No. 3 (VO1-003) for Pavement Design Change. An alternative to the additional base layer is being constructed to date. For this alternative to the additional base layer, the Contractor performed a trial construction on the Site and submitted the report “Additional crushed stone base layer C4” as the Contractor suggested using C4 crushed stone and geotextile instead of the original design material.

31. The Contractor has completed construction of a full-scale trial section and provided a typical cross-section that replaces the additional base layer “crushed stone+geotextile+capping layer”. Final Engineer's approval for the modified type cross-section was made on 24.08.2018.

32. Since November 2019, the Engineer began consultations with both parties (the Employer and the Contractor) regarding the claim for additional costs for the modified works in order to resolve the issues of the claim by concluding an Amicable Agreement.

33. Consequently, the result of the consultations was the agreement of both parties to conclude an Amicable Agreement as follows: The Amicable Agreement consists of the following points:

- To close the Contractor’s claim issue and to make the Contractor expedite the Works on time, the Engineer should accept a Variation for additional cost and the Contractor shall Not Make Any Claim Further nor Revive previous claims regarding this additional base layer issue
- The Variation for additional cost shall be made in the way of following:
  - The Geotextile cost should be added with its actual quantity

- For the unit rate of Geotextile, the Contractor shall provide all supporting particulars to the Engineer to justify its unit rate. If the Engineer is not satisfy to the given particulars, the Engineer shall determine the unit rate based on actual expenses and analyze unit rate by using the Kazakhstan cost estimation program
- The original 700.1 cost is excluded
- The additional crushed stone of 12 cm thickness should have a cost with the existing unit rate of 700.2 granular base layer

34. Lot 2, three Variation Orders were submitted during the reporting period. The first Variation is associated with the need to change the layer due to the high content of chlorides and sulfates in the construction zone where sedimentary origins are observed associated with the Caspian basin. Subbase was designed with 2 layers; a granular base layer C4 (18 cm thick) and additional base layer (20 cm thick). An additional base layer is a 20 cm thick sandy loam with a complex stabilization of 4% cement together with a Roadzaim stabilizer (with a dosage of 0.0303 l/m3 of soil weight). Base course is made of asphalt concrete (SMA-5cm, porous asphalt-10cm, highly porous asphalt-12cm).
35. According to the Department of Mineral Binders and Concrete [BelDorNII], additional base layer made of sandy loam, stabilized with cement and soil stabilizer, is the main reason for the appearance of defects on the asphalt concrete pavement in the form of loosening due to local swelling after completion of work. Also, laboratory tests show that the soils in the borrow pits contain about 1.27 ~ 11.88% gypsum. Permissible content of Chlorides and Sulfates with a total soluble sulfate content of not more than 1.0% (10,000 ppm). Most of the available soil from the designed borrow pits shows little clay, but it is mostly sandy soil that hardly needs stabilization as the elastic modulus has been proven to be greater than 50 MPa. Thus, borrow pit soils in the area are not suitable for stabilization due to the high risk of sulfate-induced disruption. Thus, the Engineer recommended excluding "Cement+Stabilization Roadzyme" from the Layer.
36. The Engineer instructed the Contractor to propose an alternative to the additional base layer. The Contractor agrees with the proposal of the Employer and the Engineer to remove cement and roadzyme from the additional base layer. The contractor is working on a design change due to the replaced additional base layer and preparing to present his opinion on the alternative instead of these components in the nearest future. The Contractor undertakes not to require additional time and cost in case of further construction with the replacement of the additional layer, if the Project Designer will prepare and approve the corresponding design within a reasonable period of time, which will not entail delays in the construction of the road
37. The Engineer issued the relevant instruction reminding the following points: <Series of Contractor's plans, Engineer's consultation, Contractor's trial sections, laboratory tests, field tests, submission of test results with subsequent conclusion> completes the Contractor's proposal. Through this general procedure, depending on the material properties of each layer, compaction density, elastic modulus and load-bearing capacities can be confirmed. The Engineer then will be able to issue final instructions regarding the modified design.
38. In order to help the Contractor to speed up his work, the Engineer instructs the Contractor (1) to follow the table of the modified design, (2) to continue his own planning and construction of the trial section and tests based on the modified design (3) to complete the submission of the results, none of the Parties of the Contract or Project borne responsibility for all of this (other than the Contractor), and this is only the cost and responsibility of the Contractor.
39. The Contractor provided an alternative after the full-scale trial section for the alternative method the Engineer commented on the Contractor's trial section as follows: change the type of geotextile from woven 200 g/m2 to non-woven 200 g/m2, crushed stone layer in the alternative additional base layer should be 12 cm. The Engineer accepted the alternative after changing the pavement typical cross section.

40. The second variation on Lot 2 is related to the bypass road on the site. The Contractor informed the Engineer about the lack of information and scope of work in the design on the construction of a temporary bypass road between CH 0+00 - CH 32+33.34 and sent to the Engineer for approval the proposed plan for the location of the specified detour with a length of 3,660 m. The Engineer approved the location of the bypass road and pointed out, in particular, the need for the Contractor to obtain all necessary approvals and permits from local authorities. The contractor will be compensated for the additional volume of work arising from the need for construction, maintenance and road safety on the additional 3,660 m of the temporary bypass road.

41. The Engineer confirmed the issuance of instructions to the Contractor related to the construction of an additional section of the bypass road and suggested that attention be drawn to Sub-Clause 4.10 of the GCC, which states that the Contractor (i) received all necessary information regarding risks, contingent liabilities and other circumstances that may affect the work, (ii) checked and studied the Site, its surroundings and other available information, and (ii) satisfied with the situation before submitting the bidding documents regarding the following issues, including (without limitation): the amount and nature of work required to carry out and complete the Works. Instructions were also issued to the Contractor's environmental specialist to include in the Corrective Action Plan the necessary measures to restore the section under the bypass road after completion of the work to its original state.

42. The Contractor completed construction of an additional temporary bypass road according to the drawings approved by the Engineer, which is confirmed by the request for inspection. The Engineer, having checked the calculations provided by the Contractor, determined that the extension time for the execution of the Works under the Contract for the construction, maintenance and safety of road traffic for the additional temporary bypass road is equal to 21 days and instructed the Contractor to prepare an appropriate Contract Variation Order.

43. The third Variation for the Lot 2 is related to the need to build an additional box culvert. Residents of the Karauylkeldy village ask to install an additional box culvert for the passage of livestock, which is not included in the design. The Engineer examined the need for an additional box culvert at the requested section and instructed the Contractor to propose a plan for installation of an additional box culvert on CH 106+40 in accordance with sub-clause 13.1 "Right to Vary" and 13.3 "Variation Order Procedure" of the GCC for the final decision by the Employer. The Contractor carried out survey works on the ground and, based on the results of the survey, provided the Engineer with drawings of an additional box culvert at CH 106+40 for consideration and approval. The Engineer accepted Contractor's drawings including rip-rap to protect the slope from erosion. Also, the Engineer emphasized that the cost of most of works for the additional box culvert is determined in the Contract, but if new work items are included in the Contractor's Proposal, the Engineer will estimate their cost.

44. During the reporting period, one Variation was submitted on Lot 3. A similar to Lot 1 Variation related to the change of pavement structure.

45. Changes to the Design were made in terms of construction and arrangement of the WC. Employer is the initiator of changes to the design. Outgoing letter No. 20 01/20-01-477 dated 09.06.2020 (Appendix 3.) The Employer indicated the need to install the WC in accordance with the standard technical requirements approved by the Scientific and Technical Council dated 30.04.2019 and agreed with the Vice-Minister of MIID RK Mr. Kamaliev B.S.

2.5 Description of Any Changes in Agreed Construction Methods

46. During the reporting period, the following changes were made. For Lot 1 and Lot 3, change affected the pavement construction. The contractor used crushed stone and geotextile instead of the designed material. This change was agreed and approved by the Employer and the Engineer. Lot 2, three changes were made during the 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, maintenance and traffic safety of additional 3,660 m of a temporary bypass road. 3. At the request of local residents, it became necessary to build an additional box culvert at CH 106+40..

3 ENVIRONMENTAL PROTECTION ACTIVITIES

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

47. During the reporting period, there were changes in the organizational structure of the Contractor for Lot 1 and Lot 3. The international environmental specialist of the general contractor Hasan Kurais for Lot 1 and Lot 3 site, was assigned to another site, and the local specialist on these lots Budanova Nurgul dismissed at her own request since January 2020. In fact, at the sites of Lot 1 and Lot 3, personnel was not replaced during the reporting period due to the state of emergency in the Republic of Kazakhstan. This provision was introduced from 24.03.2020 to 25.05.2020. With the subsequent extension of the quarantine measures, which actually did not allow the contractor Lot 1 and Lot 3 to mobilize environmental specialist to the sites. Lot 2, Anuar Embergenov works remotely from Aktobe.

48. Due to the above reasons, the Contractors were unable to ensure continuous monitoring of compliance with the environmental policy of their companies, as well as all the measures provided in the EMP. In this connection, the work carried out in the previous period of the report was not continued, in particular, the maintenance of weekly and monthly records.

49. During the reporting period Contractors made certain efforts to organize and conduct Industrial environmental monitoring, instrumental measurements by a certified environmental laboratory. Thus, Lot 1 and Lot 3, the contractor entered into an Agreement with the Testing Laboratory of "East-Eco" LLP. Accreditation certificate No. KZ.T.05.0302 dated 22.10.2018, valid until 22.10.2023. (Appendix # 1). This laboratory is approved by the Engineer. For Lot 2, the PEM is carried out and approved by the Engineer laboratory "GidroEkoresurs-L" LLP. The laboratory was accredited and received a Certificate valid until 14.08.2023. The Contractor entered into an agreement with it in 2018.

50. Industrial environmental monitoring on Lot 1 and Lot 3 was carried out in March, May and June. In April, measurements were not carried out because the Laboratory was unable to come to the sites due to the declaration of a state of emergency and the closure of roads for traffic. The corresponding written notification was sent to the contractor and subsequently to the Engineer (Appendix No. 2). Reports on these works are presented to the CSC.

51. Instrumental measurements were not carried out on the Lot 2 site during the reporting period due to lack of access of laboratory specialists to the measurement site.

52. 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 absence of an environmental specialist on Lot 1 and Lot 3, safety and protective measures specialists provided this work at their sites.

53. 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-conformity previously issued for Lot 1, Lot 2 and Lot 3. Also, the construction process was observed at all three sections. PEM reports were reviewed. Lot 1 and Lot 3, 3 monthly PEM reports are presented, with exception of April in which measurements were not taken due to the impossibility of access to the site due to the declared state of emergency throughout the Republic of Kazakhstan. There are no PEM reports for Lot 2 because laboratory specialists could not visit the site. In the period from March 24 to May 25, an Emergency Situation due to the COVID-19 pandemic was declared throughout the Republic of Kazakhstan. During this period, all work of the Specialized Laboratories related to site visits was suspended.

54. The contractors has introduced the relevant measures from the instructions of the chief sanitary doctor of the Republic of Kazakhstan to reduce the number of employees by transferring about

80% of employees to a remote work format. The contractors' environmental specialists were transferred to 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. Contractors provided workers with awareness raising on the importance of adherence to preventive measures and social distancing. Posters are displayed in living quarters and workplaces, in languages that are applicable to the sites. The 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. Health and safety specialists and medical personnel from the sites were involved in this monitoring. All these measures allowed the Contractors to prevent the spread of the COVID-19 pandemic to the sites.

3.2 Site inspections

55. During the reporting period, in March 2020, monitoring of the implementation of the EMP measures and protective measures was carried out on the Lot 1 and Lot 3 sites, to analyze potential risks in the field of environmental safety of the project. In following months, the Engineer could not audit the site of Lot 2 and further Lot 1 and Lot 3 because of access closure to the site, announced quarantine in the country due to the COVID-19 pandemic (from March 24 to May 25 2020). Subsequently, after cancellation of the state of emergency in the Aktobe region, quarantine was announced for a period until August 17, 2020.

Table 7. Site visits information

Indicator code	Name and highlights	Findings on Lot 1	Findings on Lot 3	Findings on Lot 2*
D1	EMP and site-specific environmental plans	In work on the site. No adjustments or changes. Laboratory visit is planned for conducting instrumental measurements on 20.03.2020.		At work on the site No adjustments or changes. The schedule of departure for conducting instrumental measurements is not agreed between the contractor and the laboratory. The permit for the right to subsurface use for production expires on January 20, 2020.The Contractor has submitted an application to extend the permit.
D2	Availability of the Health and Safety Plan (HSE), the introduction of corrective actions: measures to prevent spread	Previously, this work was assigned to the environmental specialist. The environmental specialist has been absent from the site due to dismissal since January 2020. Since February, the responsibility has been assigned to safety officer. Medical personnel have been appointed responsible for the prevention of COVID 19. Disease prevention posters are displayed in the living quarters. There are		There is a plan, the work is organized according to the plan. Medical personnel have been appointed responsible for the prevention of COVID 19. A health bulletin on disease prevention has been issued.

	and prevention of the Coronavirus COVID-19 pandemic.	hazard warning pictograms posted around the base camp.		
D3	Availability of emergency plans and corrective actions	The site has a plan. The instructions are not fully developed. Verbal recommendations were issued for the emergency plan.		Available
I1	Readiness and resource availability of medical centers	There is a medical center at the production base, but there is no medical center in the camp. Resource availability is low. In places for sanitary and hygienic purposes (sinks in the toilet, dining room), there are detergents and disinfectants. A quartz lamp is installed in the cooking room. The washing shop does not have instructions for handling dishes. Disinfectants are available. The washing staff do not know the instructions for processing cutlery and dishes. In public places, there are graphic posters about the prevention of coronavirus, HIV/AIDS, STDs/STIs.		The medical center is provided with the necessary resources; in the places of sanitary and hygienic units there is a sufficient amount of soap, detergents and disinfectants.
I2	Sanitary and hygienic condition of the camp, dining rooms, places of residence, common areas, sanitary and hygienic premises, provision of soap and detergents	Dormitories has no proper cleaning (2 times a day with disinfectants), toilets and showers are dirty. There is one technical staff for all premises, who will not be able to provide necessary preventive and hygienic measures, since they also clean in the offices of the engineer and the contractor, in the residential part of the camp. There is no separate cleaning staff in the dining room. Relevant instructions have been issued to correct non-conformities.	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.	In the dining room and in the living quarters, multiple cleaning with disinfectants is provided, cleaning is monitored and the availability of disinfectants.
P1	Knowledge of the algorithm of actions by medical personnel when symptoms of the corona virus COVID-19 are detected.	There is an understanding of the actions and a willingness to isolate sick persons.		
P2	Implementation of the Health and Safety Plan.	Partial, not enough resources for disinfection.	Resourced, plan activities followed	The implementation of activities is ensured, the necessary funds and resources are available
P3	Recommendations, instructions, notes on nonconformities	• The site for fuel and lubricants has not been brought into compliance with the requirements and norms of the Technical	• The storage area for fuels and lubricants was brought into the appropriate state to	• The area for fuel and lubricants was brought into proper condition, components and mechanisms were replaced, safety

		Regulations for such facilities, and the recommendations of the Bank's mission have not been taken into account (October 2019); • For liquid waste from the asphalt plant, there is no place for the placement and subsequent use of water for technical needs: dust suppression, etc. Solid waste incineration is prohibited, but there are tanks near the bitumen storage where residues of solid waste incineration; • Local contamination of fuels and lubricants at the site and at the production base. Necessary measures have not been eliminated and taken; • The site is littered, the containers are full of solid waste.	exclude accidental spills and pollution; • The solid waste disposal site has been brought into the required state, the containers are marked.	specialist made a schedule for checking components and mechanisms; • Waste Passport has been drawn up, records of waste disposal are kept; • The place of installation of the septic tank ensured the safety of operation; • The required number of containers for solid waste was provided.
EE1	The presence of negative manifestations from the local population	no	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*

56. In general, the contractors Lot 1, Lot 2 and Lot 3 have demonstrated their commitment to comply with measures to ensure the environmental and social safety of the project and the external environment.

3.3 Problem Tracking (Based on Non-Compliance Notifications)

57. The contractors' environmental specialist carried out work to eliminate remarks on the previously identified nonconformities. The logs for the registration of the removal of solid waste and industrial waste, brought into proper condition, continued to be kept. At the sites, the planned

explanatory work (education and lectures) among the personnel about the goals of segregating solid waste and industrial waste, about the EMP measures were carried out taking into account and observing social distance in small groups at the construction site. This work during the reporting period was less extensive due to the restrictions associated with the introduction of state of emergency

58. During the audit of the sites in March with the participation of ADB's national consultant Serdaliev Kanat, non-conformities in categorization were identified as significant, since these non-conformities had previously been identified, and the contractor was eliminating them routinely. Re-identification of non-conformities are significant. So, according to Lot 1, the following non-conformances were revealed.

- Local fuel and lubricant spills at the Zhaksymay production base in the area of the mechanical repair shop and at the fuel and lubricant storage site

Audit on 19.03.20

Audit on 03.10.2019

Audit on 19.03.20 Audit on 19.03.20

Figure 8. Fuel and oil spills to the concrete foundation at the Zhaksymay PB, October 2019 and March 2020

- Failure to equip fire shields with resources to eliminate emergency fuel and oil spills

Audit on 19.03.2020 Audit on 03.10.2019

Figure 9. Fire shield at the asphalt plant of Lot 1 Zhaksymay PB, comparison of the situation between the audits

- There is a spontaneous disposal of production waste on the territory of asphalt plant

Audit on 03.10.2019, unorganized runoff of liquid waste.

Audit on 17.06.2020, reinforced concrete rings for arranging a septic tank for collecting liquid waste

Figure 10. Production base “Zhaksymay”, Lot 1 comparison of situations between audits

59. Lot 2, in the previous reporting period, the Engineer's instructions were issued on replacing the lid of the septic tank, bringing the septic tank into proper condition, since around the septic tank soil has settled and there is a chance of soil subsidence. Irrational use of water from the underground source organized from a well at the construction site was also noted. Water flowed through a hose to neighboring territory. The reason for lack of a plug/valve is associated with unstable operation of the pump installed in the well. The Engineer recommends bringing the mechanisms in proper condition, eliminating inefficient use of water resources.

Spills at the storage site for fuels and lubricants, Production base of Karaulkeldy settlement, Audit in October 2019

Concreting of the site under the storage tank for fuels and lubricants, Production base in Karaulkeldy village, Audit in May 2020.

Figure: 11. Comparison of the fuel storage site between audits

60. During the reporting period, Lot 2 did not install a concrete basin containing 110% of the volume of fuel and lubricants, but as a temporary measure, control over the operation of the mechanisms of the tank (breathing valves) and the constant presence of an operator on the

site, which monitors and controls the filling of the tank to exclude spills. Also control over compliance with the waste segregation process by the subcontractor on the territory of the contractor's construction camp was ensured, fire safety shields were arranged on the territory of the repair base. At the same time, monthly instrumental measurements were not organized and carried out due to the lack of access to the site by the laboratory specialists.

61. Lot 3, the following non-conformances were identified in the previous period: violation of the Technical Regulations (TR) for the construction of stationary filling stations, as well as the lack of measures to prevent spills of fuels and lubricants were eliminated in working order. In the absence of the Contractor's environmental specialist on the site, the safety and road safety specialists brought the construction of stationary filling station and its operation in line with the TR. However, during the visit to the site during the reporting period, the Engineer drew attention to local soil contamination at the industrial part of the construction camp. It was recommended that the contractor ensure constant monitoring by a local environmental specialist for work in a mechanical repair shop and at a stationary gas station where local soil contamination is noted. It is noted that each storage tank for fuels and lubricants has a passport, which describes protective measures and presence of breathing valves. During the environmental audit in March 2020, the monitoring of the documents showed that the briefing logs contain the corresponding records of the instructions for the filling station operators and instructions for the maintenance of the filling station site and ensuring general safety.

Figure 12. Fuel storage area, Production base “Nogaity”
Lot 3, June 17, 2020

62. Also, in all Lot 1, Lot 2 and Lot 3, environmental specialists paid attention to the observed dust suppression schedule at the sites where intensive construction work is being carried out, as well as the deadlines for submitting of monthly, semi-annual and PEM reports.

63. According to the register of complaints and appeals on Lot 1, Lot 2 and Lot 3, during the reporting period were no appeals and complaints about non-compliance with environmental safeguards. From the beginning of the project implementation as of 30 June 2020, Lot 1 had 5 appeals. All were closed. Lot 2 - there are no appeals and complaints. Lot 3 received 1 appeal. It is closed. There are no open complaints and appeals on the Project.

64. During the reporting period, 4 non-conformances with environmental safeguards at the sites were recorded. At Lot 1 - 3 non-conformities: local spills of fuels and lubricants at the production site of the Zhaksymai base, incompleteness of fire shields, unauthorized

spontaneous disposal of liquid industrial waste from the asphalt plant. Lot 2 and Lot 3 - the absence of a concrete basin at the fuel storage site. Table 8 below provides information on tracking of environmental issues during the reporting period, incrementally, taking into account the start of the project. Table 8.1. presents data for the previous reporting period.

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

Total number of problems on the project	28
Number of Open Issues	4
Number of Closed Issues	24
Closing percentage	86%
Open Issues for the Reporting Period	4
Closed Issues for the Reporting Period	0

Table 8.1. Data for previous period 2-nd half of 2019

Total number of problems on the project	8
Number of Open Issues	0
Number of Closed Issues	8
Closing percentage	100%
Open Issues for the Reporting Period	0
Closed Issues for the Reporting Period	8

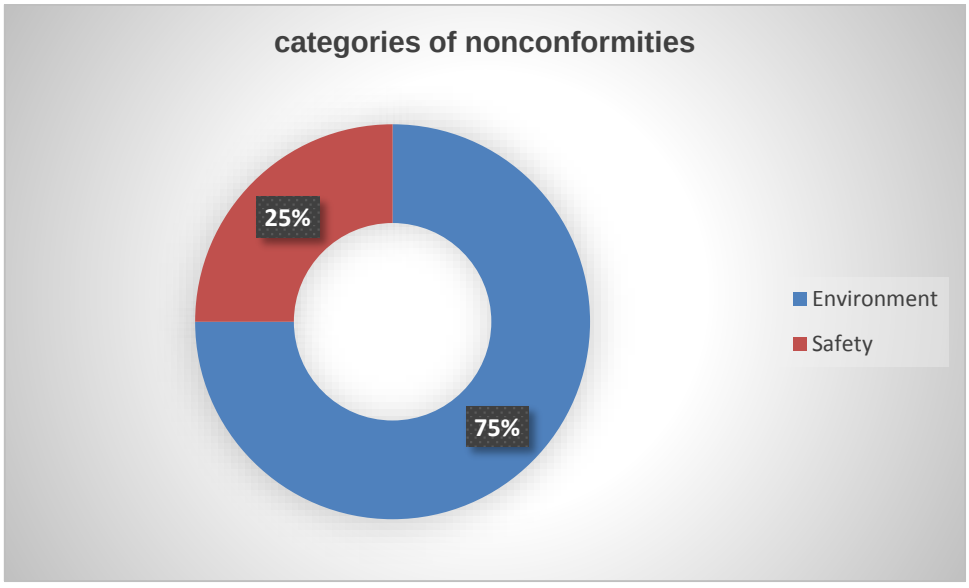


Figure.12 Non-conformance category diagram

65. The diagram in Fig. 12 shows the categorization of non-conformities for the reporting period. Compared to the previous period (the second half of 2019), there is a positive trend in the number of non-conformities, which has decreased by 2 times. During the reporting period, environmental non-conformities were registered as in the previous period, 75% of the total number of identified non-conformities. Safety in the previous period accounted 25%, in the

reporting period also 25%. Positive dynamics continues in social performance and health security. There were no non-conformances in these two categories, as in the previous period. This positive dynamics for all non-conformances is the result of active monitoring and evaluation at the sites by the Engineer and the Contractor's responsible specialists. This work should be continued to strengthen the environmental specialists at the sites.

3.4 Tendency (general directions)

66. During the reporting period as confirmed by the monitoring and audits of construction sites, there were no complaints from the public about the failure on implementation of environmental protective measures. The non-conformances were resolved by the Contractors at all sites promptly. Corrective actions were carried out immediately and written reports were provided with photographs of the results of the actions taken. In general, there is a positive trend in timely response to the elimination of non-compliances and violations.

3.5 Unforeseen environmental impacts or risks

67. During the monitoring periods of construction sites, no unforeseen environmental impacts were identified. Possible risks described in the pre-project assessment process were not implemented, since all construction work was carried out under the supervision of environmental specialists on the site. The results of environmental monitoring confirm this statement.

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

68. 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);
- WHO guidelines for ambient air quality (2005) and additional WHO guidelines and assessments related to air pollutants.

69. 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.

70. 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.

71. The works on production monitoring of environmental protection on the construction sites for Lot 1 and Lot 3 were carried out by the Testing laboratory "East-Eco" LLP, Lot 2 were performed by the testing laboratory of "HydroEcoResource-L" LLP by agreement No. 64 L dated April 05, 2018 for the provision of services for environmental monitoring. The testing laboratory "GidroEkoResurs - L" LLP has accreditation certificate KZ.T.05.1400 dated August 14, 2018, for a period until 14.08.2023, and Testing Laboratory of "East-Eco" LLP has a KZ.T.05.0302 certificate dated 22.10.2018 for a period until 22.10.2023, confirming the existence of conditions necessary to perform measurements in the field of activity assigned to the laboratory: conducting analytical monitoring of pollutant indicators of the working area, atmospheric air and sources of air emissions, surface , natural waters, as well as analysis of soil and physical factors.

72. 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.

73. During the reporting period, instrumental measurements were not carried out on Lot 2 site due to lack of an opportunity for the laboratory to come to the site. On the sites of 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 research protocols, conclusions were drawn on the impact on the environment and the need for mitigation measures to reduce negative impact.

74. 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.

75. 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 March, May and June were submitted.

76. 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 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. The Lot 2 environmental specialist limited himself to internal monitoring of the implementation of the EMP measures without results of the PEM.

4.1.1 Environmental measurements on Lot № 1

4.1.1.1 Noise and vibration

77. On lot 1, measurements of vibration and noise level was carried out in accordance with the approved scheme of sampling points. Figure 13 below shows a diagram with sampling points and measurements of vibration and noise levels.

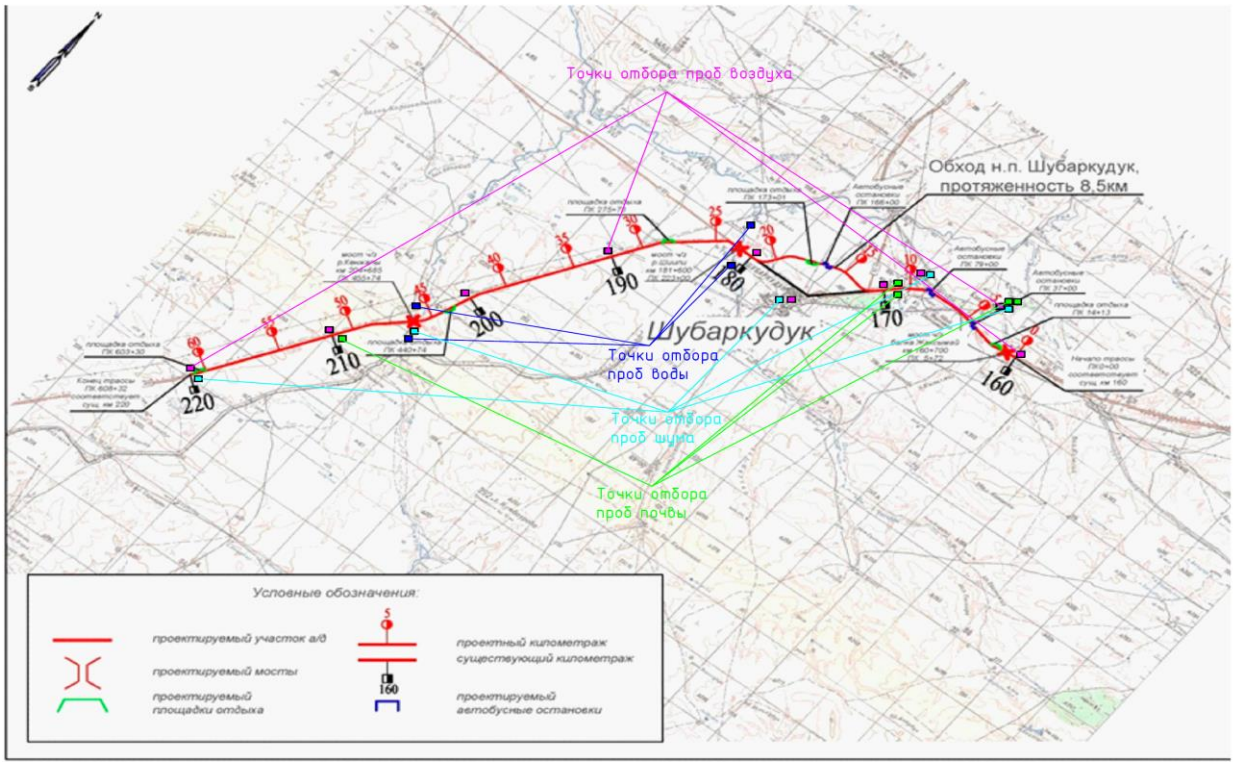


Figure 13: Situation diagram with water sampling points (dark blue), noise and vibration measurements (light blue), air (pink) and soil sampling (green) on Lot 1

78. Dynamics of changes in noise and vibration on Lot 1 areas during the reporting period are represented by instrumental measurements for the period March, May, June. The main regulatory and procedural document that guided the work on monitoring noise and vibration is Order No. 169 of 02/28/2015. "Hygienic standards to the physical factors affecting the person."

79. 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 a national standard because it is more demanding in terms of MPL.

80. With an acceptable level of 80 dBa for workplaces of drivers of road-building equipment (this MPL is taken from Annex 2 to the order of the Minister of National Economy of the Republic of Kazakhstan "On approval of hygienic standards for physical factors affecting a person" dated February 28, 2015 No. 169 “Sound pressure MPL, sound levels equivalent sound levels for the most typical types of workplaces”) marked the highest value equal to 52.0 dB in March at the work site near Kopa village and the lowest within the limits of 36.0 dB in May at the work site km 170 & km190. It shows that the level of noise from working building machinery does not exceed MPL at all measurement points. Consequently, this level of noise does not have a negative impact on the health of working personnel.

81. On construction sites, the noise level value is fixed in the range of 36,0-51,0 dB. These values do not exceed MPL for these places.

82. Measurement data on Lot 1 shows that the level of noise from working building machinery does not exceed MPL at all measurement points. Consequently, do not have a negative impact on the health of working personnel.

83. In terms of vibration acceleration on this Lot, no excess of the permissible equivalent level of vibration acceleration of 95 dB recorded at the measurement points. All measurements on the indicated points at Figure.7 are within 36.0 -51.0 dB. The highest value was recorded at the Zhaksymay Production Base in October, and the lowest value was also recorded in October at KM 170 & km 220. With these values, there is no negative impact both on the environment and on the health of personnel on the site.

4.1.1.2 Soil

84. 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. Sample selection.

85. Soil samples were taken from 2 points in Zhaksimay Production Base Km 168, 2 points on road sections Km 160, Km 170, Km 180, Km 190, Km 200, Km 210, km 220. Laboratory data are presented in Annex No. 4. The results of soil samples analyzes 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, while the area of impact on vegetation corresponds to the local scale, duration of the impact is constant for the period of construction work.

Analysis of the data from the protocols of measurements carried out in the framework of the PEM shows that during the reporting period there is an excess of the content of oil products in soil samples taken at all points of sampling. At the same time, the maximum value was recorded at the Km 160 section where the content of oil products is noted within 85 mg/kg in May and 79 mg/kg in June. Further, the excess of the primary measurements was recorded at points 1 and 2 at the Production Base Km 169. Here it was recorded in May at point 1: 60 mg/kg, in June - 54 mg/kg. At point 2 in May, it was recorded - 81 mg/kg, in June - 63 mg/kg.

86. 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.

87. During the reporting period, at the Lot 1 site out of 10 open borrow pits, the excavation was carried out from 7 design borrow pits in the volumes planned by the production work plans. Cultivation works are carried out on borrow pit No. 1. During the reporting period, the technical stage of land reclamation was completed, including planning, formation of slopes, detailed information on all borrow pits is presented below in table 9.

Table No. 9. Information on borrow pits on Lot 1 site by status as of June 30, 2020

№	Name	KM/CH	Location		Reserves		extraction	Recultivation
			left	right	area, ha	quantity, thousand m^3		
1	Borrow pit 1	29+36		218	3,99	104,9	12,0	80%
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	0%
4	Borrow pit 4	146+94		403	3,99	104,9	38,2	0%
5	Borrow pit 5	203+47		745	15,9	406,8	75,7	0%
6	Borrow pit 6	294+05	1038		15,9	406,8	118,0	0%
7	Borrow pit 7	351+20	319		3,95	104,0	85,0	0%
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	0%
10	Borrow pit 10	556+75		148	3,99	100,9	75,1	0%

4.1.1.3 Water quality

88. Main regulatory and methodological documents that guided monitoring of natural waters in the Shieli River km 181+600, Kenzhaly river km 204+500: No. 209 dated March 16, 2015. Water sampling was carried out according to GOST RK GOST R 51592-2003 “Water. General requirements for sampling." Water sampling was carried out during reporting period from Shieli and Kenzhaly rivers in March, May, June. Data from the PEM report for June on water measurement are not taken into account in this report because there is incorrect data in the table of the textual report on PEM with the data of the water measurement protocols. This June PEM report was sent back for adjustment.

89. According to the laboratory data of the Measurement Protocols, all indicators has no excess of permissible norms. Compared with the values obtained during measurement period before start of construction work, there is also no excess of values for all measured indicators with the exception of the sulfate content in Shieli River as compared to background measurements. With a background value of 272 mg/dm^3 in March, this indicator had a value of 303.76 mg/dm3 and in May - 342.45 mg/dm^3.

90. For the rest of all indicators, the level of pollution does not exceed indicators obtained as a result of measurements before start of construction and MPC for each of the determined indicators. Laboratory indicators are presented in Appendix No. 5.

4.1.1.4 Air quality

91. 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);

• WHO guidelines for ambient air quality (2005) and additional WHO guidelines and assessments related to air pollutants.

92. Measurements of air pollution level on Lot 1 site were carried out in accordance with the approved sampling scheme. Measurements were carried out 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 Appendix No. 6.

93. During reporting period, measurements of the air polution level at the following points were carried out on this lot: Km 160, Km 170, Km 180, Km 190, Km 200, Km 210, Km 220, at the Shubarkudyk and Kopa villages. Also included are 2 measurement points: Railway dead end, Bitumen pit. The frequency of measurements was monthly for March, May and June.

94. The obtained laboratory data for the reporting period in all samples, except for Km 180, show no excess of the level of atmospheric air pollution for all indicators at all points. Do not exceed the values obtained before the start of construction work and with the MPC. At Km 180, the carbohydrate content exceeded the MPC (0.095 mg / m3) and the background measurement (1 mg / m3) in March was recorded at 1 mg / m3, in May and June at 0.5 mg / m3. The source of pollution is exhaust gases from construction equipment, which contain more than 200 components, including a huge amount of various carbohydrates.

95. It should be noted that distribution of harmful gases is a short-term nature, and with decrease or cessation of equipment movement, their content also decreases. All air pollution in a relatively short time passes into safer forms.

96. According to national standards, exposure of minor intensity is considered exposure associated with an increase in airborne pollutant concentration of less than 10% MAC, 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 2

97. Instrumental measurements on Lot 2 during the reporting period were not carried out due to the lack of access to the site for laboratory specialists. Contractor's environmental specialist, in view of the announcement of an emergency due to the COVID-19 pandemic and the subsequent quarantine until 31.08.2020 consisting of 80% of the personnel, was sent to a remote work format.

98. Soil excavation during the reporting period was carried out in 4 borrow pits. Detailed information is presented in Table No. 9 below. Reclamation at the borrow pits has not begun, since the extraction works have not been completed in accordance with the production volume of work.

Table 10. Information about borrow pit on Lot 2 by status as of June 30, 2020

№	Name	KM/PK	Location	Reserves			Excavation Status as of 31.12.2019	Excavation 1st half of 2020
				m	Thous. m^3	ha	Thous. m^3	Thous. m^3
1	К1	km238+300/ PK23+00	125,5	2,70	423,1	15,67	125,5	-
1a	К1А	km240+200/ PK42+00	7,7	2,69	328,7	12,22	7,7	18,68
2	К2	km242+000/ PK60+00	0,0	2,70	956,1	35,41	0,0	9,64
3	К3	km246+000/ PK93+00	0,0	2,70	346,1	12,82	0,0	43,67
4	К4	km250+220/ PK143+00	33,8	2,70	312,7	11,58	33,8	-
5	К5	km254+340/ PK183+60	5,3	2,70	430,7	15,95	5,3	-
6	К6	km261+100/ PK251+00	170,8	2,70	904,7	33,51	170,8	-
6a	К6А	km267+600/ PK316+00	124,8	2,69	321,7	11,96	124,8	-
7	К7	km271+100/ PK351+00	147,6	2,70	181,7	6,73	147,6	-
Total:					**4 206**	**156**	**615,47**	**71,98**

4.1.3 Environmental measurements on Lot No.3

99. On Lot 3 site, instrumental measurements were carried out by a certified laboratory, which carried out these works on Lot 1, since there was one contractor on these lots. All regulatory and methodological approaches are the same as those presented in Lot 1.

4.1.3.1 *Noise and vibration*

100. Measurements on the level of noise and vibration acceleration were carried out at the following points: ACP, Production base "Nogayty", CBP section, km 275, km 285, km 300, km 310, km 320, northwestern of Zharly village, northwestern of Nogayty village. According to the results of measurements (Appendix No. 11) for the reporting period, there was no excess of the MPD. Measurements on the noise level are noted in the range of 36.0-51.0 dBa with a maximum allowable sound level of 80 dBa. And the values of vibration acceleration at the above measurement points are noted within 36.0-51.0 dB with a permissible equivalent level of vibration acceleration - 95 dB.

4.1.3.2 *Soil*

101. 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. 9 presents the PEM reports data for May & June. 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.

102. Excavation work from borrow pits was carried out in the quantities planned for production work. Detailed information is presented below in Table No. 11. According to these data, during reporting period, the Contractor made excavation in 2 borrow pits: No. 2, No. 9.

Table 11. Information about borrow pits on Lot 3 by status as of June 30, 2020

№	Name	KM/PK	Location		Reserves		Excavation 2nd half of 2019 thous, m3	Excavation 1st half of 2020 thous, m3
			left	right	Area thous. ha	Quantity, m^3		
1	Borrow pit 11	51+95	270		8	203,6	120,6	-
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	-
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	-
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

4.1.3.3 Water quality

103. Within the framework of industrial environmental control, monitoring of water resources on the Ayryk, Zharly and Nogait rivers in this section of the road was not carried out since there is no water in them.

4.1.3.4 Air Quality

104. Monitoring of air pollution was carried out in areas where construction work was carried out during reporting period: km275, km 285, Km 300; Km 310; Km 320, ACP & CBP, railway dead end & bitumen pit. Appendix No. 10 presents data from PEM report for May & June. Analysis of PEM report data of air pollution show that at all measurement points there is no recorded excess of MPC for all determined indicators. According to the results of observations, in general, in all areas of Lot 3, the air condition was assessed as stably good. No deterioration in air quality.

4.2 Tendency (general direction)

105. During reporting period, no negative environmental impacts: atmospheric air, soil, water resources, vibration and noise, the health of the persons affected by the project, as well as flora and fauna were noted.

106. No negative trends were observed in regards to environmental indicators since beginning of the project.

4.3 Summary of monitoring results

107. 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.

108. At Lot 1 and Lot 3, the tandem “international and local environmental specialist” showed productive interaction in the previous period, but during the reporting period this interaction was absent due to organizational changes in the Contractor's staffing table and the dismissal of the local environmental specialist for his own reasons. In view of the imposed emergency and the continuation of the quarantine, the Contractor is not able to mobilize another environmental specialist to the site to complete the EMP in terms of the borrow pit management plan where the remediation of the used borrow pits is planned. All current work is carried out under the guidance of the project manager and under his responsibility.

109. The analysis of the executed work to bring them into compliance with the norms, rules, and environmental protection requirements is generally assessed as satisfactory. The work was carried out in accordance with the EMP with the exception of work to organize and conduct PEM. This part of the work was not fully carried out due to the emergency and quarantine measures at the sites. Detailed information is presented below in Table 12.

Table 12. Environmental Compliance Monitoring on Lot 1, Lot 2 and Lot 3

№	Location	Problematic 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, Lot 2 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 and dining room. Cross control and uninterrupted supply of drinking water	Facilities provided. Communications connected to the camp	Provided on Lot 1, Lot 2 and Lot 3
3		Sanitation and Hygiene	Providing toilets and flushing water in showers. Transportation to septic tanks for processing and disposal	Base camp is provided and fulfilled.	Provided on all sites.
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 dining room, Lot 2 has its own dining room and Lot 3 is a rental space with catering and catering services.
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	Corresponds on Lot 1, Lot 2 and Lot 3

				and wastewater system	
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, Lot 2 and Lot 3
7	Quarry / borrow pit territory	Material collection comply with legislation of the Republic of Kazakhstan on environmental protection	For Lot 2 to extend the permit for excavation from borrow pits	Application for renewal filed	Only for Lot 2. Extension is under consideration
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, Lot 2 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, Lot 2 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, Lot 2 and Lot 3

4.4 Use of Material Resources

4.4.1 Current period

110. The quantity of resources used during the reporting period by Lots 1, 2 and 3 is presented in Table 13 below.

Table 13. Amount of used resources for the 1st half of 2020

Sections / Resources	Lot 1	Lot 2	Lot 3
Electricity, kWh	150 748	96 270,21	248002
Natural gas, thn m^3	1170	149	0
Drinking water, m^3	240	75,3	15

Water for technical needs, m^3	4800	38,7	0

4.4.2 Cumulative use of resources

111. On Lot 1, electricity consumption in the first half of the year increased 14 times compared to the previous period with the same amount of work. The reason for this increase is not in production needs, but rather inappropriate use of the resource, which is not controlled and managed by the relevant structures of the Contractor. The contractor launched a procedure for timing work processes and reconciliation of resource consumption readings, after which it is planned to optimize work processes to reduce electricity consumption. For natural gas, there is a 3-fold increase in consumption volumes, which is associated with the intensive work of the asphalt plant. For drinking water and industrial water, there is also a 5-fold increase, which is associated with hot periods and an increase in the number of workers at the site.

112. For Lot 2, according to the resource use data for the first half of 2020, the contractor has reduced electricity consumption by 4 times compared to the previous period. As for natural gas, an increase of 6.6 times is noted due to an increase in consumption at the ABZ for performing the volume of work on laying asphalt concrete. For drinking water consumption during the reporting period decreased by 2 times due to the late mobilization of personnel to the site. For industrial water, consumption exceeded 10 times due to the operation of the asphalt plant, an increase in the frequency of dust suppression at the work sites and in the camp.

113. For Lot 3, electricity consumption remains almost the same as in the previous period. But there is an increase in demand for drinking and industrial water.

4.5 Waste management

114. 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 in these areas schedule for removal of solid waste and industrial waste is observed, Since May waste removal is being carried out on daily basis.

115. In the previous period, the recorded non-conformity in organization of a place for collecting liquid waste produced by the plant for reuse for the purpose of dust suppression was brought into proper condition during the reporting period. Reinforced concrete rings were installed to collect liquid industrial waste and prevent groundwater pollution. This type of waste is used in dust suppression

116. Table 13 below provides information on the types and quantity of solid waste collected from the site during the reporting period.

117. Lot 2. Household waste generation is caused by the Karaulkeldy production base: railway dead end, base camp, workshops, laboratory of the contractor. Solid waste is removed by “Zelenstroy LLP” (Aktobe) according to the extended Contract No. 64 dated August 25, 2018. Table 14 below provides information on types and quantity of solid waste collected from the site during the reporting period. Monitoring at this site showed that during the absence of the environmental specialist who is at a remote work, control over the removal of solid waste is carried out by safety specialists and the camp administration.

118. **Lot 3:** a base camp with infrastructure of the residential part, offices, canteen, laboratory of the Contractor, CBP, ACP, railroad dead end, workshops are located on the Production Base “Nogayty” According to the camp management plan, places for temporary storage of solid waste are organized with the subsequent removal to the landfill. Removal of household waste from this base is carried out by “Technology XXI Century LLP” on the basis of extended contract No. 02/05-18 dated May 2, 2018. Information on the types and quantity of solid waste removed at the time of this report is not submitted.

4.5.1 Current period

119. 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 Baiganin district landfill.

Table 14. Information on removal of household waste for first half of 2020 - Lot 1

№	Waste	Unit	Waste classification	Quantity	Method of waste disposal
1	Solid waste	ton	Non-hazardous	1,1	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

120. Composition of the total waste generation in Lot 1 & Lot 3 is only solid waste. No other data was provided by the contractor. Lot 2 did not provide data on waste amount.

4.6 Health and safety

4.6.1 Community Health and safety

121. Health and safety conditions at the workplace are regulated by the Law "On the Safe Use of Machinery and Equipment" 3 No. 305-III ЗРК, July 21, 2007, Fire Safety Regulations No. 1077 dated October 9, 2014 and other regulatory legal acts.

122. 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.

123. 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.

Fig. 14. Dust suppression on Lot 2, 18 June 2020

Fig.15. Dust suppression on Lot 3, 21 May 2020

124. To ensure safety for the local residents, contractors on 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 spread of COVID 19.

125. All three sites have developed appropriate COVID-19 virus prevention measures. Additional measures have been introduced in the health and safety plans: strict control of outside visits to the camp, observance of the mask regime, provision of gloves, thermometry 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.

126. Lot 2, during the period of acute shortage of medical masks, organized 2 workplaces for seamstresses from among the staff of a catering company in the camp. They bought sewing machines, gauze and other accessories and provided need for reusable medical masks. Some of the masks were handed over to local staff for family members, as well as to the Akimat of Karaulkeldy.

127. On the whole, the unprecedented measures taken allowed contractors not to slow down the pace of work and to preserve health of their workers. Detailed information is attached in Appendix No. 11.

4.6.2. Workers Health and safety

128. For Lot 1 for the reporting period, total length of the finished bypass road open for traffic has not changed and is 55.5 km. The width of the bypass road meets the requirements and is 9 m. During the reporting period, work was carried out to maintain temporary road and ensure traffic safety. The bypass road was profiled from CH 0+00 to CH 128, from CH 230+00 to CH 232+00, from CH 367+00 to CH 455, and partially on CH 209+00, CH 221+00. Dust suppression provided 3 times a day.

129. The initial traffic patterns on temporary bypass roads, agreed with the RSE "Aktobezhallaboratory" and the UAP of the Department of Internal Affairs of Aktobe from 20.03.2018, 17.04.2018, and 05.05.2018 were changed by the recommendation of the

administrative police. The contractor has developed a uniform scheme for the bypass road. This scheme has been agreed with the Engineering Service, ARB JSC “NC “KazAvtoZhol” and ODTI UAP DP of Aktobe region dated May 21, 2020.

130. Along the entire length of the bypass road, temporary road signs on a yellow background and signal posts are installed, corresponding to the agreed scheme with the ODTI UAP DP of Aktobe region dated 21.05.2020.

131. Number of signalmen and traffic controllers - 2 people. Additional portable temporary signs were installed at the work sites 1.23. “Road works” and 2.4. “give way”.

132. During the reporting period, 1 accident was recorded on1 Lot. 27.06.2020 at about 21:00 local time at km 187 (CH 275+00) (section closed to traffic, road under construction) an accident occurred with the participation of one BMW X5 vehicle, license plate 158 CWA 04. moving in the direction from Atyrau towards Aktobe, lost control and allowed the vehicle to overturn into a ditch. This section of the road is closed to traffic and equipped with road sign 3.1 "No entry". Driver and 1 passenger were in the car. Both were hospitalized in the Temir Central Hospital with fractures. The circumstances and causes of the accident are being investigated by the relevant authorities of the law.

133. Lot2 during the reporting period, the total length of the bypass road that is ready and open for traffic has not changed and is 32.2 km. The width of the bypass road meets the requirements and is 9 m.

134. In connection with the replacement and change of the location of some temporary road signs, the scheme of movement on the bypass roads was changed and agreed by the relevant authorities. Along the entire length of the bypass road, temporary road signs on a yellow background and signal posts are installed, corresponding to the approved scheme with the UAP of the Department of Internal Affairs of Aktobe dated April 15, 2020.

135. From CH 114+00 to CH 401+00 of the bypass road patching and full-width grading were carried out. Profiling of the existing road in the Karauylkeldy village has been carried out.

136. As part of joint activities in June, road safety specialists with officers from the Baiganin District Department of Internal Affairs held an action to prevent road accidents at the site on the topic: “Driving safety on the roads”. Within the framework of the action, all vehicles stopped and an explanatory conversation was held with all drivers on the Aktobe-Atyrau road. No incidents or road accidents were registered at this site during the reporting period.

137. Lot 3, total length of the bypass road, which is 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 posts are installed, corresponding to the approved scheme with the UAP of the Department of Internal Affairs of Aktobe dated April 17, 2018.

138. During the reporting period, as part of the maintenance of the road, backfilling and profiling of the carriageway of the bypass road from CH 0+00 to CH 275+00 were carried out, as well as works on leveling with milled material were performed from CH 512+10 to CH 551+00, CH 537+00. 6 units of water trucks were involved for dust suppression.

139. During the reporting period, 1 road accident was recorded for Lot 3. 07.06.2020 at about 10.00 local time, on CH 239+00 of the bypass road, vehicles Volkswagen Sharan KZ 086 NRA 04 and Opel Vectra KZ 904 LSA 04 made an accident. As a result of a head-on collision, two passengers died. Total number of passengers in two vehicles is 10 people and 2 drivers. According to preliminary data, the driver of the Volkswagen Sharan vehicle, moving from the Nogayty village towards Zharly village, drove into the oncoming lane, thereby making a head-on collision. According to meteorological conditions, at the time of the accident, it was clear, without precipitation in this area. Road conditions are characterized by the following parameters: the coverage of the carriageway of the bypass road is even, without holes. The circumstances and causes of the accident are being investigated by the relevant authorities of the law.

140. Table 15 below provides a summary of all incidents that have occurred on the project since the beginning of the road construction.

Table 15. Statistics on incidents and accidents from the beginning of the project

Type	Lot 1	Lot 2	Lot 3
Traffic accident	6	1	2
Accident	0	0	0
Disability	0	0	0
Downtime due to incident	0	0	0
Total:	**6**	**1**	**2**

141. It should be noted that the aforementioned accidents on Lot 1 and Lot 3 were caused by the fault of the drivers, who ignore the speed limit signs prohibiting entry to the project road. Monitoring of each incident showed that safety signs were installed on the site in accordance with the approved plan to ensure safe traffic.

142. Under the project, road safety issues are monitored in accordance with the approved Road Safety Plans (agreed with the CSC and traffic police). Based on the results of the investigation into the circumstances of the road traffic accidents, the authorized body recognized that road accidents are associated with non-compliance with traffic rules in terms of speed limits and compliance with the distance and measures when overtaking a moving vehicle.

143. The issues of observance of safety measures at construction sites are also timely checked by the relevant responsible persons of the contracting organizations. Corresponding investigations have been carried out on the facts of the incidents, as well as additional briefing of employees.

4.7. Trainings

144. The CSC conducted training on issues related to the implementation of the EMP, monitoring of work at sites, regular health and safety instructions, AID/HIV issues as well as COVID-19 pandemic. Workers had on-the site trainings during accompanying consultation during environmental inspections of construction sites. In the course of the inspections, the ESs of CSC and PMC drew the attention of the environmental specialists of the contractors to the indicators for the implementation of environmental protection measures and explained how to identify potential risks of a negative environmental and local residents impacts.

5 FUNCTIONING OF THE SSEMP

5.1 Review of SSEMP

145. EMP of Lots 1,2 and 3 in the reporting period was not changed. The activities announced in the EMP were carried out by the contractors and in the proper order and quality. The EMP of Lot 2 was brought into line with ADB requirements. Water resources management activities were included.

146. 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 of the contractors for Lot 1 and Lot 3 took into account the CSC about the need for a thorough study and subsequent application of laboratory data in their work in terms of evaluating the measures taken.

147. During the reporting period, Lot 2 environmental specialist was unable to provide timely reports on industrial environmental monitoring to an independent laboratory. Lot 1 and Lot 3 were able to conduct site visits and carry out instrumental measurements in May and June.

148. Based on the results of corrective actions the CSC developed a series of measures for the subsequent period July-December 2020. The remaining open issues are insignificant and the contractor has every opportunity to eliminate all of them as soon as possible. Table 16 below presents the corrective actions to eliminate non-conformities.

Table 16. Corrective Action Plan Implementation Status January-July 2020

Actions	Time-frame	Responsible	Action status
Ensure presence of the Engineer during the PEM Written notice about timing of PEM	According to the PEM schedule	Contractor’s Environmental Specialist	Lot 1 and Lot 3 notified in writing about the planned measurements in March and May. Lot 2 due to the COVID 19 pandemic did not conduct instrumental measurements
Reports for the PEM laboratory and contractor’s reports should include information on solid waste management (volumes, type, classification of waste, disposal method, location, etc.) photo fixation with dates and time indicated on the photo for monitoring, sampling and instrumental measurements	Monthly, according to the PEM schedule	Contractor’s Environmental Specialist on Lot 3	Not performed. The submitted reports do not take into account the recommendations of the CSC
Develop final EMP for all three sites which will reflect measures for the reconstruction and restoration of areas for temporary use (construction camps, production sites, storage of materials, etc.)	20.05.2020	Contractor’s Environmental Specialist	Lot 2 submitted. Lot 1 and Lot 3 did not submit.
At the ACP of Lot 1 site, provide a place for accumulation/collection of liquid production waste and arrange a process (regulation) for the reuse of liquid waste for dust suppression and other technical needs	15.04.2020	Contractor’s Environmental Specialist on Lot 1 Site manager	Completed June 17, 2020 reuse of liquid waste for dust suppression.

On concrete platforms for storage of fuels and lubricants, install/fill boards with a height of at least 20 cm along the perimeter of the site	30.03.2020	Contractor’s Environmental Specialists Lot 1,2,3	Boards are not installed at the fuel storage site. Sand is used to eliminate accidental spills.
To obtain extension to the right of subsoil use for the extraction of common minerals in borrow pits No. 1-7, which expires on January 20, 2020.	20.01.2020	Lot 2 Environmental Specialist	Compliance with the requirements of the EC RK In the process of receiving. The documents were submitted to the state services portal - 10.01.2020
Conducting outreach to subcontractors and environmental service providers and EMP activities	01.06.2020	Environmental Specialists for all lots	Postponed due to emergency state and subsequent quarantines
Post-construction environmental audit	10.07.2020	CSC together with PMC	Planned for September 30th due to the extension of the project implementation period.

5.2 Advanced methods (good practices)

149. In the process of the site monitoring the CSC noted on Lot 2 as a good practice the organization of environmental unit. A local environmental specialist was mobilized to the site, who was entrusted with the work of daily monitoring of dust suppression schedule, the schedule of solid waste removal, gardening the base camp and educating environmental literacy among workers. This practice did not have a logical continuation due to transfer to another job of the local environmental specialist in October 2019. In subsequent periods, the Contractor did not provide replacement. The site environmental specialist worked remotely from Aktobe.

150. Lot1, Lot 2 and Lot 3: the practice of proper interaction with the local people was 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

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

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

152. 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.

153. Application of effective protective measures while implementation of project includes following:

- Construction waste removal and disposal was carried out according to work plans, with the provision of protective measures. All emissions to atmospheric air were within acceptable limits. Instrumental measurements did not show exceeding the permissible norms. In general, environmental specialists of Lot 1, Lot 2 and Lot 3 sections perform ongoing monitoring and ensure an effective system for implementation of the environmental management plan, given the difficult period in connection with the announcement of the state of emergency. But the absence of environmental specialist on the site affected waste segregation work, registration of removed waste quantities and reflection in the monthly reports of the Contractor.
- 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. In the organization structure of contractors, vertical and horizontal interactions are included and staff of linear structures (headman, foremen, etc.) are involved in this process. In the absence of an environmental specialist from the site, these communication links were able to ensure required level of implementation of the EMP measures;

154. Work to ensure safety and security for the local residents was carried out in the necessary and sufficient volumes, which made it possible to prevent realization of risks in this area. During the reporting period, there were no road accidents and incidents on Lot 2, which is the result of the effective work of safety specialists and the effectiveness of the measures taken, as well as joint actions with external stakeholders.

155. On Lot 1 and Lot 3 1 accidents were registered, as a result of one of them there are 2 deaths. The accidents that took place in the reporting period is not influenced by the Project.

156. Specialists in protective measures (environmental specialists, health and safety engineers, road safety engineers, medical personnel) remotely and directly on the sites provided conditions to prevent infection and prevent spread of coronavirus on the sites, which made it possible to continue construction work without losses and without extension of contracts.

6.2 Recommendations

157. Information on waste segregation, volumes taken out for placement and utilization should be reflected in Contractor's monthly reports in the section on environmental protection measures.

158. Improve quality of documentation of the work on the implementation of the EMP, PLA and BT. Use photos with the dates and time of the event, draw up lists of participants indicating contacts, positions of participants, location of the event.

159. Lot 2, No work was carried out on Lot 2 in borrow pits, since due to the extension of the contract, the extension of the previously issued excavation permit was not received during the reporting period.

160. Agree with the experimental measurement laboratory to use the data from the measurement protocols, since the descriptive part of the PEM does not fully reflect measurement data. Attention should be paid to the photo fixation of sampling and measurements. All the photos do not show dates of these works; moreover, an observer from CSC did not participate due to lack of preliminary information about these works.

161. Based on the results of the implementation of corrective actions for the period January-June 2020, as well as site monitoring and environmental audits in March 2020, the CSC developed a number of measures for the subsequent period July-December 2020. Table 17 below provides a corrective action plan for the July-December 2020 period.

Table 17. Corrective Action Plan for July-December 2020

Actions	Time-frame	Responsible	Note
Ensure presence of the Engineer during the PEM Written notice about timing of PEM	According to the PEM schedule	Contractor's Environmental Specialist	Written notification to the CSC about the upcoming measurements
Reports for the PEM laboratory and contractor's reports should include information on solid waste management (volumes, type, classification of waste, disposal method, location, etc.) photo fixation with dates and time indicated on the photo for monitoring, sampling and instrumental measurements. Remove the prohibition on data use from the protocols of instrumental measurements.	July, August, September	Environmental Specialists Lot 1, 2, 3	In the submitted PEM reports for Lot 1 and Lot 3, these recommendations were not accepted for work. In the June report there is an incorrect reflection of data from the protocols in the text of the PEM report for Lot 1.
To equip a basin on the territory of storage of fuels and lubricants with a concrete wall surface to contain 110% of the volume of the tank	October	Environmental specialists of Lot 2 and Lot 3, Health and safety specialists	Include a photo report on the remediation in the monthly report
Develop final EMP for all three sites which will reflect measures for the reconstruction and restoration of areas for temporary use (construction camps,	15.08.2020	Contractor's Environmental Specialist	CSC and PMC consultations

production sites, storage of materials, etc.)			
For Lot 2, include in the work plans measures for the restoration of the temporary bypass road after its closure	20.07.2020	Lot 2 Environmental Specialist Site manager	The change in the design was made due to the absence of a temporary bypass road on this section
Educate subcontractors and service providers on environmental issues and EMP activities	For Lot 1 and Lot 3 Weekly in July, August and September. For Lot 2 - weekly July, August	Environmental Specialists and medical staff for all lots	Contracts end on Lot 2 - August, Lot 1 and Lot 3 - September 30
Develop COVID-19 pandemic management plan as part of SSEMP	By middle of September 2020	Environmental specialists of all Contractors for Lots to be continued till end of 2020	
Post-construction environmental audit	By 30.10.2020	CSC together with PMC	

Annex 1.

КОМИТЕТ ТЕХНИЧЕСКОГО РЕГУЛИРОВАНИЯ И МЕТРОЛОГИИ
МИНИСТЕРСТВА ТОРГОВЛИ И ИНТЕГРАЦИИ
РЕСПУБЛИКИ КАЗАХСТАН

НАЦИОНАЛЬНЫЙ ЦЕНТР АККРЕДИТАЦИИ

АТТЕСТАТ АККРЕДИТАЦИИ

Зарегистрирован в реестре субъектов аккредитации

№ KZ.T.05.0302
от «22» октября 2018 года
действителен до «22» октября 2023 года

дата изменения «26» декабря 2019 года

Испытательная лаборатория (стационарная и передвижная)
Товарищества с ограниченной ответственностью «ИСТ-ЭКО»
город Актобе, Хобдинская трасса, район фабрики ПОШ,
административное здание № 461
(наименование, организационно-правовая форма, место нахождение субъекта аккредитации)

аккредитован(а) в системе аккредитации Республики Казахстан на соответствие требованиям СТ РК ISO/IEC 17025-2018 «Общие требования к компетентности испытательных и калибровочных лабораторий».
(наименование нормативного документа)

Объекты оценки соответствия: испытание продукции согласно области аккредитации.

Область аккредитации приведена в приложении.

Руководитель
органа по аккредитации _____ Г. Мухамбетов
(подпись)

М.П.

002711

Annex 2

Written Notice about the impossibility of conducting an PEM in April on Lot 1 and Lot 3

«ИСТ-ЭКО»
Жауапкершілігі шектеулі серіктестік
030020, ҚазақстанРеспубликасы,
Ақтөбе облысы, Ақтөбе қаласы
Маресьевкөшесі, 77 үй, 3 пәтер
тел/факс: 8 (7132) 55-06-08

«ИСТ-ЭКО»
Товарищество с ограниченной ответственностью
030020, Республика Казахстан,
Актюбинская область, г. Актобе
ул. Маресьева, д.77, квартира 3
тел/факс: 8 (7132) 55-06-08

Исх. № 270
от «16» апреля 2020 г.

Руководителю

ТОО «СП «Сине Мидас Строй»

В рамках заключенного между нашими компаниями Договора за №109-1/СМС/А-М от 05.01.2020 года ТОО «ИСТ-ЭКО» сообщает Вам о том, что не имеет возможности выехать на объекты Заказчика за апрель месяц 2020 г., в связи с введением чрезвычайного положения в Актюбинской области, а именно ограничением выезда за пределы города Актобе.

Директор ТОО «ИСТ-ЭКО» **Алманиязов Г.И.**

Ref. No. 270
dated 16 April 2020
To Manager
Sine Midas Stroy JV LLP

In the framework of the Agreement No. 109-1/SMS/AM dated 05 January 2020, IST-ECO LLP informs you that due to the imposition of the state of emergency in the Aktobe region, namely the restriction of travel outside the Aktobe city, it is not possible to visit the Client’s facilities in April 2020.

Director LLP IST-ECO Almaniyazov G.

Annex 3

Employer’s letter

«QazAvtoJol» Ulttyq kompaniasy»
aksionerlik qoǵamynyń
Aqtóbe oblystyq filialy

030019, Aqtóbe qalasy, Maresev kóshesi, 89
Tel.: 8 (7132) 546 -571, faks: 8 (7132) 546 -571

№ 2001/20-03-477-И
от 09.06.2020

Руководителю
Инженерной Группы по Надзору за Строительством
ТОО «DONGSUNG ENGINEERING»
Г-ну, Ким Джин Ву

Настоящим сообщаем о необходимости устройства санитарно-гигиенических узлов (далее СГУ) на участках реконструкции автомобильной дороги, «Актобе-Атырау-граница РФ (на Астрахань)», км 160-220, км 236-275, км 275-330, в соответствии с типовым техническим требованиям, утвержденным научно-техническим советом от 30 апреля 2019 года, (Приложение) и с соглосованным с вице-министром МИИР РК Камалиевым Б.С эскизом и дополнительными требованиям по защите павильона (Приложение).

Также сообщаем, что поставщик СГУ должен предоставлять гарантию на СГУ и на все его оборудование сроком на 12 месяцев и на саму конструкцию СГУ сроком на 36 месяцев, а также гарантировать работоспособность и возможность использования в любое время года.

Приложение: Типовые технические требования к СГУ на 12 л.
Эскиз СГУ на 7 л.

Директор **Махамбетов М.С.**

Исп. Каримов Е.А
54-77-32

Ref: 20-01/20-02-477-I
Dated: 09.06.2020

To: Kim Jin Woo
Dongsung Engineering / ZS Engineering

We hereby inform you about necessity of the installation of sanitary and hygienic units (hereinafter SHU) on the sections of "Aktobe-Atyrau-border of the Russian Federation (to Astrakhan)", km 160-220, km 236-275, km 275-330 road reconstruction, in accordance with the typical technical requirements approved by the Scientific and Technical Council dated April 30, 2019, (see attachment) and with the schematic design agreed with Kamaliev B., the Vice-Minister of MIIR RK, and additional requirements for the protection of the pavilion (see attachment).

We also inform that the SHU supplier must provide 12 months guarantee for SHU and all equipment and 36 months guarantee for the structure of the SHU, as well as guarantee the workability and the possibility of use at any time of the year.

Attachment: Typical technical requirements for SHU 12 pages. Schematic design of SHU for 7 pages

Branch Director **M. Mahambetov**

Annex 4

Laboratory test results of for soil contamination, lot 1

Points Selection / measurements	Name of defined (mg / 100 g)	Before start of Project mg/100gr 24.042018	28.05.2020 mg/kg	18.06.2020 mg/kg
km 160	pH units	7,87	7,06	7,18
	Dense residue	0,147	0,18	0,180
	Petroleum products	0,01	85,0	79,0
	Chlorides	0,05	2,20/0,078	1,8/0,064
	Sulphates	0,462	1,4/0,07	1,6/0,077
	Calcium	0,4	0,25/0,005	0,25/0,005
	Magnesium	0,16	0,3/0,004	0,25/0,003
	Carbonates	0,0	0,0	0,0
	Bicarbonate	0,98	0,45/0,027	0,5/0,031
km 170	pH units	7,82	7,41	7,63
	Dense residue	0,150	0,10	0,091
	Petroleum products	0,02	46	62,0
	Chlorides	0,15	0,18/0,006	10,12/0,004
	Sulphates	0,452	1,3/0,061	1,2/0,058
	Calcium	0,7	0,3/0,006	0,25/0,005
	Magnesium	0,6	0,5/0,006	0,75/0,009
	Carbonates	0,08	0,0	0,0
	Bicarbonate	26,0	0,30/0,018	0,25/0,015
km 180	pH units	7,20	7,2	7,09
	Dense residue	0,250	0,14	0,163
	Petroleum products	0,021	64	72,0
	Chlorides	0,06	0,16/0,006	0,18/0,006
	Sulphates	0,450	2,0/0,09	2,4/0,12
	Calcium	1,12	0,3/0,006	0,35/0,007
	Magnesium	5,05	0,75/0,009	0,5/0,006
	Carbonates	0,0	0,0	0,0
	Bicarbonate	18,0	0,10	0,4/0,024
km 190	pH units	7,22	7,03	6,97
	Dense residue	0,250	0,10	0,093
	Petroleum products	0,024	71,0	49,0
	Chlorides	0,06	0,30/0,011	0,4/0,014
	Sulphates	0,440	0,3/0,01	0,4/0,02
	Calcium	15,5	2,10/0,042	1,75/0,035
	Magnesium	0,0	0,35/0,004	0,3/0,004
	Carbonates	0,0	0,0	0,0
	Bicarbonate	18,0	0,14	0,33/0,020
Км 200	pH units	7,22	6,98	7,01
	Dense residue	0,250	0,19	0,171
	Petroleum products	0,024	30,0	23,0
	Chlorides	0,06	1,8/0,064	1,6/0,057
	Sulphates	0,440	2,1/0,10	1,5/0,071
	Calcium	15,5	0,5/0,010	0,75/0,015
	Magnesium	0,0	0,35/0,004	0,35/0,004
	Carbonates	0,0	0,0	0,0

	Bicarbonate	18,0	0,19	0,4/0,024
Км 210	pzH units	7,78	6,84	6,98
	Dense residue	0,250	0,12	0,120
	Petroleum products	0,024	50,0	62,0
	Chlorides	0,06	2,20/0,078	2,4/0,085
	Sulphates	0,439	0,2/0,01	0,2/0,01
	Calcium	0,49	0,45/0,009	0,5/0,01
	Magnesium	0,0	0,1/0,001	0,05/0,001
	Carbonates	0,04	0,0	0,0
	Bicarbonate	28	0,12	0,23/0,014
Км 220	pH units	7,86	7,94	7,61
	Dense residue	0,260	0,31	0,137
	Petroleum products	0,021	36,0	46,0
	Chlorides	0,06	0,21/0,008	0,2/0,007
	Sulphates	0,438	2,5/0,1265	2,1/0,099
	Calcium	0,50	0,38/0,008	0,33/0,007
	Magnesium	0,0	0,28/0,003	0,28/0,003
	Carbonates	0,03	0,0	0,0
	Bicarbonate	26,0	0,31	0,34/0,021
Production Base "Zhaksymay" Point 1	pH units	7,80	8,01	7,83
	Dense residue	0,144	0,2	0,176
	Petroleum products	0,01	60	54,0
	Chlorides	0,04	0,22/0,008	0,2/0,007
	Sulphates	0,282	3,7/0,18	3,0/0,144
	Calcium	0,9	0,30/0,006	0,25/0,005
	Magnesium	0,9	0,25/0,003	0,2/0,002
	Carbonates	0,0	0,0	0,0
	Bicarbonate	0,08	0,35/0,021	0,3/0,018
Production Base "Zhaksymay" Point 2	pH units	7,67	7,43	7,74
	Dense residue	0,150	0,21	0,226
	Petroleum products	0,01	81	63,0
	Chlorides	0,06	0,20/0,007	0,2/0,007
	Sulphates	0,288	3,3/0,16	3,8/0,181
	Calcium	1,8	0,25/0,005	0,35/0,007
	Magnesium	0,8	0,75/0,009	0,8/0,01
	Carbonates	0,0	0,0	0,0
	Bicarbonate	0,08	0,35/0,021	0,35/0,021

Annex 5

Laboratory test result for water pollution, Lot 1 section

Sampling points	**Name of pollutants**	**MPC standard**	**Primary results 24.04.18** mg/m^3	**20.03.20** mg/m^3	**29.05.20** mg/m^3
Kenzhaly rriver	pH units	6,0-9,0	8,34	6,45	6,61
	Dry residue	1000	41,50	1436,0	1487
	Water insoluble matter	Not standardized	20	10	18
	Chlorides	Not mare than 350	2 835,0	346,6	350,0
	Ammonia nitrogen	Not more than 2.0	9,05	<0,1	0,10
	Petroleum products	Not more than 0.1	0,06	0,0053	0,0091
	Total hardness	7.0 (10)	7,5	9,8	12,2
	Calcium	Not standardized	560	107,6	128
	Magnesium	Not standardized	564	34,1	69
	Sulphates	Not more than 500	878	498,61	495,98
	Nitrates	Not more than 45	0,223	<0,1	<0,1
	Nitrite	Not more than 3.3	0,672	0,008	0,011
	Iron	Not more than 3.0	1,75	0,11	0,13
	Chromium	Not more than 0.05	00	<0,025	<0,025
	Total phosphorus	Not more than 0.0001	0,0	<0,05	0,0056
	APAV	0.5	0,07	<0,025	<0,025
Shieli river	pH units	6,0-9,0	7,86	6,05	6,12
	Dry residue	1000	41,38	700,00	860
	Water insoluble matter	Not standardized	13,0	<10	17
	Chlorides	Not more than 350	182,4	198,33	173,33
	Ammonia nitrogen	Not more than 2.0	6,93	<0,1	0,12
	Petroleum products	Not more than 0.1	0,04	0,005	0,0088
	Total hardness	7.0 (10)	6,4	5,3	6,0

	Calcium	Not standardized	78,0	<0,015	80
	Magnesium	Not standardized	30	104,0	24
	Sulphates	Not more than 500	272	303,76	342,45
	Nitrates	Not more than 45	0,254	<0,1	<0,1
	Nitrite	Not more than 3.3	0,072	0,012	0,024
	Iron	Not more than 3.0	1,12	0,19	0,22
	Chromium	Not more than 0.05	0,0	<0,025	<0,025
	Total phosphorus	Not more than 0.0001	0,0	0,12	0,52
	APAV	0.5	0,02	0,03	0,026

Annex 6

Results of measurements of atmospheric air, Lot 1

Sampling points	Name of pollutants	Actual concentration Initial measurement before beginning of the Project, 24.04.2018, mg/m³	MPC standard, mg/m³	Concentration of substances during measurement periods, mg/m³		
				20.03.2020 mg/m³	29.05.2020 mg/m³	18.06.2020 mg/m³
Km 160	Inorganic dust 70-20%	0,063	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,062	0,2	0,0466	0,0472	0,0454
	Sulfur dioxide SO2	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,2	5,0	1,5	1,5	1,5
	CH2O formaldehyde	0,0013	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C_{12}-C_{19}	0,093	1	0,5	0,5	0,5
	Benzene, C6H6	0,060	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,079	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,3	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
Km 170	Inorganic dust 70-20%	0,0363	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,0062	0,2	0,0466	0,0473	0,0458
	Sulfur dioxide SO2	n/a	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,2	5,0	1,5	1,5	1,5
	CH2O formaldehyde	0,0013	0,051	0,0015	0,0015	0,015
	Hydrocarbons C_{12}-C_{19}	0,093	1		0,5	0,5
	Benzene, C6H6	0,060	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,079	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,3	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
Km 180	Inorganic dust 70-20%	0,061	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,063	0,2	0,0464	0,0477	0,0433
	Sulfur dioxide SO2	n/a	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,3	5,0	1,5	1,5	1,5
	CH2O formaldehyde	0,0012	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C_{12}-C_{19}	0,095	1	0,5	0,5	0,5
	Benzene, C6H6	0,063	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,081	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,2	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
Km 190	Inorganic dust 70-20%	0,063	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,060	0,2	0,0453	0,0473	0,0467
	Sulfur dioxide SO2	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,4	5,0	1,5	1,5	1,5
	CH2O formaldehyde	0,0013	0,051	0,0015	0,0015	0,0015

	Hydrocarbons C_{12}-C_{19}	0,097	1	0,5	0,5	0,5
	Benzene, C6H6	0,65	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,082	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,3	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
Km 200	Inorganic dust 70-20%	0,065	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,062	0,2	0,0458	0,0474	0,0447
	Sulfur dioxide SO2	n/a	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,5	5,0	1,5	1,5	1,5
	CH2O 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, C6H6	0,067	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,083	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,4	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	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	0,0466	0,0461	0,0443
	Sulfur dioxide SO2	n/a	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,6	5,0	1,5	1,5	1,5
	CH2O 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, C6H6	0,069	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,085	0,2	0,1	0,1	0,1
	Methylbenzene C_5H_6-CH_3	0,3	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
Km 220	Inorganic dust 70-20%	0,068	0,3	0,05	0,05	0,05
	Nitrogen dioxide NO_2	0,065	0,2	0,0471	0,0464	0,0479
	Sulfur dioxide SO2	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,7	5,0	1,5	1,5	1,5
	CH2O 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
	Benzene, C6H6	0,070	0,3	0,05	0,05	0,05
	Xylene C_8H_{10}	0,087	0,2	0,01	0,1	
	Methylbenzene C_5H_6-CH_3	0,3	0,6	0,3	0,3	0,3
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
PB Zhaksy mai ACP	Inorganic dust and Suspended particles from June	0,0402	0,3	0,075	0,075	0,075
	Nitrogen dioxide NO_2	0,0301	0,2	0,0477	0,0466	0,0453
	Sulfur dioxide SO2	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide CO	1,7	5,0	1,59	1,56	1,52
	CH2O formaldehyde	0,0013	0,051	0,0015	0,001	0,0015

	Hydrocarbons C_{12}-C_{19}	0,1	1	0,5	0,5	0,5
	Benzene, C6H6	n/a	0,3	н/о	н/о	н/о
	Xylene C_8H_{10}	n/a	0,2	н/о	н/о	н/о
	Methylbenzene C_5H_6-CH_3	n/a	0,6	н/о	н/о	н/о
	Hydrogen sulfide, H_2S	n/a	0,008	0,004	0,004	0,004
PB Zhaksymai CBP	Inorganic dust and Suspended particles from May	Was not planned	0,3	0,075	0,075	0,075
	Nitrogen dioxide NO_2		0,2	0,0463	0,0469	0,0464
	Sulfur dioxide SO2		0,5	0,025	0,025	0,025
	Carbon monoxide CO		5,0	1,77	1,66	1,56
	CH2O formaldehyde		0,051	0,0015	0,0015	0,0015
	Hydrocarbons C_{12}-C_{19}		1	0,5	0,5	0,5
	Benzene, C6H6		0,3	n/a	n/a	n/a
	Xylene C_8H_{10}		0,2	n/a	n/a	n/a
	Methylbenzene C_5H_6-CH_3		0,6	n/a	n/a	n/a
	Hydrogen sulfide, H_2S		0,008	0,004	0,004	0,004
Residential area						
Shubarkuduk windward	Inorganic dust: 70-20%	0,0398	0,3	0,05	0,05	0,05
	Nitrogen dioxide	0,0268	0,2	0,0453	0,0444	0,037
	Sulphur dioxide	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide	1,6	5,0	1,55	1,56	1,51
	Formaldehyde	0,0012	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C12-C19	0,99	1	0,5	0,5	0,5
	Hydrogen sulphide	n/a	0,008	0,004	0,004	0,004
Shubarkuduk leeward	Inorganic dust: 70-20%	0,04	0,3	0,05	0,05	0,03
	Nitrogen dioxide	0,0270	0,2	0,04778	0,0463	0,0453
	Sulphur dioxide	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide	1,7	5,0	1,66	1,71	1,67
	Formaldehyde	0,0012	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C12-C19	0,1	1	0,5	0,5	0,5
	Hydrogen sulphide	n/a	0,008	0,004	0,004	0,004
Kopa windward	Inorganic dust: 70-20%	0,0398	0,3	0,05	0,05	0,05
	Nitrogen dioxide	0,0312	0,2	0,0466	0,0451	0,0447
	Sulphur dioxide	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide	1,5	5,0	1,51	1,58	1,63
	Formaldehyde	0,0013	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C12-C19	0,099	1	0,5	0,5	0,5
	Hydrogen sulphide	n/d	0,008	0,004	0,004	0,004

Kopa leeward	Inorganic dust: 70-20%	0,0402	0,3	0,05	0,05	0,05
	Nitrogen dioxide	0,0315	0,2	0,0475	0,0463	0,0475
	Sulphur dioxide	n/d	0,5	0,025	0,025	0,025
	Carbon monoxide	1,5	5,0	1,68	1,64	1,71
	Formaldehyde	0,0014	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C12-C19	0,1	1	0,5	0,5	0,5
	Hydrogen sulphide	n/d	0,008	0,004	0,004	0,004
PB Zhaksy mai	Suspended substances		0,3	0,075	0,075	0,075
	Nitrogen dioxide	0,0315	0,2	0,0463	0,0466	0,0455
	sulphur dioxide	н/о	0,5	0,025	0,025	0,025
	Carbon oxide	1,5	5,0	1,77	1,56	1,61
	Formaldehyde	0,0014	0,051	0,0015	0,0015	0,0015
	Hydrocarbons C12-C19	0,1	1	0,5	0,5	0,5
	Hydrogen sulfide	n/d	0,008	0,004	0,004	0,004
PB Zhaksy mai railway dead end	Inorganic dust: 70-20%		0,3	0,075	0,3	0,3
	Nitrogen dioxide	0,0315	0,2	0,0466	0,2	**0,0447**
	Sulphur dioxide	н/о	0,5	0,025	0,5	**0,025**
	Carbon monoxide	1,5	5,0	1,53	5,0	**1,52**
	Formaldehyde	0,0014	0,051	0,0015	0,05	**0,5**
	Hydrocarbons C12-C19	0,1	1	0,5	1,0	**1,0**
	Hydrogen sulphide	n/d	0,008	0,004	0,008	**0,004**
PB Zhaksy mai bitumen pit	Inorganic dust: 70-20%	Not planned	0,3	0,075	0,3	**0,075**
	Nitrogen dioxide		0,2	0,0477	0,2	0,0457
	Sulphur dioxide		0,5	0,025	0,5	0,025
	Carbon monoxide		5,0	1,61	5,0	1,55
	Formaldehyde		0,051	0,0015	0,05	0,0015
	Hydrocarbons C12-C19		1	0,5	1,0	0,5
	Hydrogen sulphide		0,008	0,004	0,008	0,004

Annex 7

Summary data from environmental monitoring checklists **Lot 1**

Environmental monitoring checklist

Checklist for Lot 1 site inspection		
Date of site visit: 18.03.2020	**Engineer's representative:** Imbarova Sara **Contractor's representative:** Branch director Savchanchik pavel	Engineer's ref.No. Contractor's ref.No.
Weather Conditions: 18 0C south wind 3.5 m/s		
Work currently in progress:		
The problems related to environment	**Possible reasons**	**Proposed measures to reduce the risk**
Increased dustiness on the roads and on the production base in March	The dust suppression schedule is not kept, lack of water resources.	Control over the schedule of dust suppression
Absence of Environmental specialist from the site	Dismissal of a former employee	Mobilization of an environmental specialist to the site

No.	**Measures for the environment protection**	**done**		**In progress**		**Comments**
		Yes	**No**	**Yes**	**No**	
Contractor's base camp						
1						Septic tanks are cleaned daily
2	All wastewater is sent to septic tanks or service water tanks	✓				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					provided
4	Solid hazardous materials are stored in a safe place in the work areas	✓				Organize concreted special areas, install fencing to store hazardous materials in accordance with the requirements.
5	Drains accumulate in the drainage system and are disposed of by the Contractor	✓				According to the EMP
6	All vehicles entering and leaving the base camp are subject to control	✓				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	✓				Monthly meetings in the Akimat

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
8	Open containers for storage of materials are covered with canopies	✓				Containers are installed with covers
9	Open burning is prohibited		✓	✓		There is no constant monitoring by the environmental specialist
10	Fire Figurehting equipment ▪ Sand bucket and shovel ▪ Foam extinguisher ▪ Protective coating in canteen	✓				audit and replacement of fire extinguishers was made
11	Access of other people to the town is prohibited by the installation of fencing and security organazing	✓				At the gate is the checkpoint, the contract with the security company
12	All employees are provided with personal protective equipment (PPE)	✓				
13	Smoking is prohibited except in Smoking rooms	✓				Repairing territory has a designated smoking area.
14	Relevant road signs and warning signs on the site and in hazardous areas	✓				
15	Drinking water is provided to all employees from commercial and licensed sources.	✓				Needs assessment is carried out regularly
16	Protective clothes of all employees are washed on a daily basis	✓				Protective clothes of employees are washed as necessary
17	All employees are provided with three meals a day	✓				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	✓				Sanitary days are held
19	First-aid posts and first-aid kit in base camp and in the working areas	✓				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	✓				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	✓		✓		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

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
						work plans (as part of the project EMP)
22	Providing a place for rest in base camp	✓				There are rest rooms
23	Child labour (below 15 years)	✓				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	✓				
2	Liquid waste from the asphalt plant are kept in the established tank and they emptied specialised suction equipment ≤MTTSTH≥ Lyman		✓		✓	Export by a specialized company for disposal has been organized. Reuse of liquid waste for dust suppression. Activities are included in the upcoming construction season.
3	Bitumen is stored in a specialised place and bent in concrete to a volume of 110%	✓				Bitumen storage is concreted Used periodicaly
4	Solid waste from the asphalt plant is stored at the designated places and disposed of in accordance with approved procedures	✓				With the periodic export for disposal on landfill
5	The area of the plant is engraved for the purpose of reducing dust	✓				
6	The area of the plant is watered for the purpose of reducing dust	✓				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	✓				The issued instructions for arranging a concrete pit or a special tank for pumping out and reusing waste for dust suppression have been completed
8	All workers of asphalt, concrete plant and crusher are provided with protective masks	✓				All provided with masks and overalls.
9	All workers of asphalt, concrete plant and crusher use protective masks	✓		✓		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	✓				

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
11	In asphalt, concrete plants and crushers there are fire-Figurehting equipment	✓				Fully understaffed
12	Plant or equipment causing high levels of vibration are built properly, maintained and managed accordingly	✓				In accordance with technical regulations
13	River/canal fenced for the protection of water resources		✓			No need
GAS STATION						
1	Refueling will be strictly controlled and allowed only at the gas station and workshop	✓				
2	Space for storage tanks of fuel protected, and they are impermeable, tank cover closed	✓				
3	Gas station equipped with fire-fighting equipment to be checked weekly	✓		✓		The inspection schedule is being followed. Continuous monitoring by safety department is required
4	The gas station has warning signs	✓		✓		
5	The gas station is equipped with a special basket for excess waste	✓		✓		
Contractor's workshop and car wash						
1	Liquid hazardous materials are stored in the designated place in workshop	✓				The site is concreted
2	Solid hazardous materials are stored in the designated place in the workshop	✓				
3	There are special containers for the collection of used petroleum products and hydraulic fluids	✓				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	✓				
5	The workshop is equipped with a drainage system	✓				
6	Each transport is inspected and maintained on an ongoing basis	✓				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		✓	✓		

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
8	The noise suppression equipment of all equipment is checked and maintained in accordance with the approved procedures		✓	✓		Not available
9	All workshop workers are provided with welding equipment and personal protective equipment	✓				
10	All technical water is collected in the concreted tank and the tank is cleaned in accordance with the approved procedures	✓		✓		Included in construction season 2020
The Project Road						
1	All the roads targeted for construction work watered with the water truck	✓		✓		Increase the intensity of watering and the number of water carriers, special control of areas locating near settlements
2	On the project road in appropriate places there are flags for the passage of cattle, sheep and other animals	✓				warning signs in frequently used areas for cattle are instaled
3	Sections of culverts and bridges, equipped with safety tapes and twisting signs	✓				
4	Fencing and access control services are installed at all workplaces where it is necessary	✓				
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)	✓				
6	Work areas and hazardous areas are equipped with all relevant road signs and warning signs	✓				
7	Construction machinery and plants are properly maintained to reduce gas emissions	✓				According to the schedule of PEM are monitoring emissions
8	Noise control measures in special facilities	✓				PPE provided: ear plugs
Borrow pits						
1	Quarries are provided with temporary drainage	✓				
2	200 m from the nearest settlements, all construction work stopped from 22: 00 to 6: 00 a.m.	✓				
3	Crushed stone of all size are extracted only from approved quarries	✓				

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	✓				
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	✓				The control of the senior mechanic
7	During the construction works the volume of noise is limited according to national standards	✓				Schedule of works on objects with high noise and vibration
8	Materials with possible dust formation do not load exceeding the level of folding bodies and close with a clean tarpaulin	✓				
9	All vehicles, production equipment and devices comply with Euro exhaust emission standards		✓			Equipment rented from villagers does not meet the standards
10	All temporary acquired lands are restored		✓	✓		Upon completion of construction works. Reclamation of 80% of the planned work volume was carried out at borrow pit No. 1
11	All material residues and contaminated land are collected and disposed of in accordance with approved procedures	✓				Executed in response to Engineer comments
12	During the delivering and using materials, it is watering	✓				Control by the environmental specialist
13	Any direct sites damaged as a result of a dump of soil, are restored to an original look	✓				
14	The riverbanks are protected from the contractor's materials storages or temporary stacks	✓				
15	The negative effects or disruption due to construction work is monitored, with an acceptable level in accordance with the standards	✓				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	✓				Dust suppression ensured, as well as flagman
17	Draining and draining water, avoiding flooding or causing damage to other works or services causing erosion	✓				
Flora and Fauna						

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
1	Trees and shrubs that are outside the construction site, but within the road reserve, are usually protected from damage	✓				
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	✓				During the reporting period, there is no need to cut down plantations
4	Trees and shrubs are cut down and removed only if they interfere with the necessary temporary or permanent work					Tree cutting is not required during reporting period
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)		✓			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	✓				

Annex 8

Summary data from environmental monitoring checklists **Lot 2**
Environmental monitoring checklist

Checklist for Lot 2 site inspection		
Date of site visit: 17.06.2020	**Engineer's representative:** Temirbek Zh. **Contractor's representative:** Anuar Embergenov environmental specialist	Engineer's ref.No. Contractor's ref.No.
Weather Conditions: +31 0 C, northwest wind 2 m/s		
Work executed during site minitoring		
The problems related to environment	**Possible reasons**	**Proposed measures to reduce the risk**
Increased dustiness on the roads in warm periods	The dust suppression schedule is not kept, the overload of dump trucks, the lack of water resources.	Control over the schedule of dust suppression, control over the work of the excavator

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	✓				Septic tanks are cleaned daily
2	All wastewater is sent to septic tanks or service water tanks	✓				Control by the environmental specialist Camp administration
3	All the dangerous liquids stored in a prescribed place on an impermeable base with effluent collection					Eliminated
4	Solid hazardous materials are stored in a safe place in the work areas	✓				Equipped with concreted fenced platform
5	Drains accumulate in the drainage system and are disposed of by the Contractor	✓				According to the EMP
6	All vehicles entering and leaving the base camp are subject to control	✓				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					There are no settlements in the places of construction work

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
8	Open containers for storage of materials are covered with canopies	✓				Containers are installed with covers
9	Open burning is prohibited	✓				Control by the camp administration
10	Fire Figurehting equipment ▪ Sand bucket and shovel ▪ Foam extinguisher ▪ Protective coating in canteen	✓				Sufficient numbers of fire shields provided in base camp
11	Access of other people to the town is prohibited by the installation of fencing and security organazing	✓				At the gate is the checkpoint, the contract with the security company
12	All employees are provided with personal protective equipment (PPE)	✓				
13	Smoking is prohibited except in Smoking rooms	✓				Repairing territory has a designated Smoking area.
14	Relevant road signs and warning signs on the site and in hazardous areas	✓				Work is carried out in accordance with road safety management plans
15	Drinking water is provided to all employees from commercial and licensed sources.	✓				Needs assessment is carried out regularly
16	Protective clothes of all employees are washed on a daily basis	✓				Protective clothes of employees are washed as necessary According to sanitary and hygienic norms washing at least 2 times a week
17	All employees are provided with three meals a day	✓				The food service provider has been replaced. The quality of food improved
18	Canteen with sanitary conditions in base camp	✓				Sanitary days are held
19	First-aid posts and first-aid kit in base camp and in the working areas	✓				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	✓				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	✓				Base camp territory is cleaned daily from the excess of solid waste, and stored in the designated area.

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
22	Providing a place for rest in base camp	✓				There are rest rooms
23	Child labour (below 15 years)		✓			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	✓				
2	Liquid waste from the asphalt plant are kept in the established tank and they emptied specialised suction equipment ≤MTTSTH≥ Lyman	✓				Export by a specialized company for disposal according to the contract
3	Bitumen is stored in a specialised place and bent in concrete to a volume of 110%	✓				Bitumen storage is concreted Used periodicaly
4	Solid waste from the asphalt plant is stored at the designated places and disposed of in accordance with approved procedures	✓				With the periodic export for disposal on landfill
5	The area of the plant is engraved for the purpose of reducing dust	✓				
6	The area of the plant is watered for the purpose of reducing dust	✓				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	✓				
8	All workers of asphalt, concrete plant and crusher are provided with protective masks	✓				
9	All workers of asphalt, concrete plant and crusher use protective masks	✓				
10	Sands and fractions for concrete and asphalt are stored in a wet and covered place	✓				
11	In asphalt, concrete plants and crushers there are fire-Figurehting equipment	✓				Work was carried out to ensure safety measures and emergency response
12	Plant or equipment causing high levels of vibration are built properly, maintained and managed accordingly	✓				In accordance with technical regulations
13	River/canal fenced for the protection of water resources	✓				Protective measures were provided during work on the bridge over Karauylkeldy River

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	✓				
2	Space for storage tanks of fuel protected, and they are impermeable, tank cover closed	✓				According to the technical regulations
3	Gas station equipped with fire-Figurehting equipment to be checked weekly	✓				Provided in accordance with technical regulations of gas stations
4	The gas station has warning signs	✓				
5	The gas station is equipped with a special basket for excess waste	✓				Provided in accordance with technical regulations of gas stations
Contractor's workshop and car wash						
1	Liquid hazardous materials are stored in the designated place in workshop	✓				Concrete platform It is recommended to equip sides on the platform to prevent contamination of the adjacent territory and as a preventive measure against emergency discharge of liquid hazardous materials
2	Solid hazardous materials are stored in the designated place in the workshop	✓				Containers are installed
3	There are special containers for the collection of used petroleum products and hydraulic fluids	✓				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	✓				
5	The workshop is equipped with a drainage system	✓				
6	Each transport is inspected and maintained on an ongoing basis	✓				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		✓	✓		
8	The noise suppression equipment of all equipment is checked and		✓	✓		Not available

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
	maintained in accordance with the approved procedures					
9	All workshop workers are provided with welding equipment and personal protective equipment	✓				
10	All technical water is collected in the concreted tank and the tank is cleaned in accordance with the approved procedures					No car wash
The Project Road						
1	All the roads targeted for construction work watered with the water truck	✓				
2	On the project road in appropriate places there are flags for the passage of cattle, sheep and other animals	✓				warning signs in frequently used areas for cattle are installed
3	Sections of culverts and bridges, equipped with safety tapes and twisting signs	✓				
4	Fencing and access control services are installed at all workplaces where it is necessary	✓				
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)	✓				
6	Work areas and hazardous areas are equipped with all relevant road signs and warning signs	✓				
7	Construction machinery and plants are properly maintained to reduce gas emissions	✓				According to the schedule of PEM are monitoring emissions
8	Noise control measures in special facilities	✓				PPE provided: ear plugs
Quarries						
1	Quarries are provided with temporary drainage	✓				
2	200 m from the nearest settlements, all construction work stopped from 22: 00 to 6: 00 a.m.	✓				
3	Crushed stone of all size are extracted only from approved quarries	✓				
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	✓				

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
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	✓				The control of the senior mechanic
7	During the construction works the volume of noise is limited according to national standards	✓				Schedule of works on objects with high noise and vibration
8	Materials with possible dust formation do not load exceeding the level of folding bodies and close with a clean tarpaulin	✓				
9	All vehicles, production equipment and devices comply with Euro exhaust emission standards		✓			Equipment rented from villagers does not meet the standards
10	All temporary acquired lands are restored					Upon completion of construction works
11	All material residues and contaminated land are collected and disposed of in accordance with approved procedures	✓				
12	During the delivering and using materials, it is watering	✓				Control by the environmental specialist
13	Any direct sites damaged as a result of a dump of soil, are restored to an original look	✓				
14	The riverbanks are protected from the contractor's materials storages or temporary stacks	✓				
15	The negative effects or disruption due to construction work is monitored, with an acceptable level in accordance with the standards	✓				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	✓				Dust suppression provided, there is a flagman
17	Draining and draining water, avoiding flooding or causing damage to other works or services causing erosion	✓				
Flora and Fauna						
1	Trees and shrubs that are outside the construction site, but within the road reserve, are usually protected from damage					No greenery
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

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
3	Cutting is not carried out without the prior permission of the relevant local authorities					Such works are not provided
4	Trees and shrubs are cut down and removed only if they interfere with the necessary temporary or permanent work					No requirement
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)		✓			The construction of bridges does not affect the cultivation and harvesting, as they are located in remote places. There is spring-well and no work impact to it
6	Construction on river sections occurs only during low flow to minimize pollution	✓				

Annex 9

Laboratory test results of for soil contamination, Lot 3

Sampling points	**Name of detected indicators (mg/100 g)**	**Before the beginni Construction Works 24.04.2018 Mg/100g**	**28.05.2020 mg/kg**	**18.06.2020 mg/kg**
Production base "Nogaity", point number 1	pH units	7,33	7,95	7,64
	Dense residue	0,194	0,15	0,115
	Petroleum products	0,028	60,0	54,0
	Chlorides	0,253	0,20/0,007	0,2/0,007
	Sulphates	0,471	2,4/0,116	1,7/0,079
	Calcium	0,82	0,25/0,005	0,25/0,005
	Magnesium	0,75	0,88/0,0107	0,75/0,009
	Carbonates	0,090	0,0	0,0
	Bicarbonate	68,0	0,20/0,012	0,25/0,015
May and June Km 275	pH units	7,80	7,17	7,23
	Dense residue	0,257	0,12	0,252
	Petroleum products	0,020	74,0	83,0
	Chlorides	0,07	0,5//0,018	0,46/0,016
	Sulphates	0,448	5,5/0,262	4,0/0,191
	Calcium	0,50	0,88/0,018	0,75/0,015
	Magnesium	0,0	0,63/0,008	0,5/0,006
	Carbonates	0,0	0,0	0,0
	Bicarbonate	27,0	0,18/0,011	0,4/0,024
km 285	pH units	7.30	7,26	7,18
	Dense residue	0.215	0,33	0,265
	Petroleum products	0.027	30,0	45
	Chlorides	0.251	0,3/0,011	0,3/0,011
	Sulphates	0.453	4,1/0,196	4,6/0,221
	Calcium	0.86	3,30//0,066	3,5/0,07

	Magnesium	0.70	0,88/0,011	0,75/0,009
	Carbonates	0.072	0,0	0,0
	Bicarbonate	56.0	0,30/0,018	0,28/0,017
Km 300 primary measurement April 2018	pH units	7,32	6,85	7,04
	Dense residue	0,279	0,32	0,0279
	Petroleum products	0,017	50,0	46,0
	Chlorides	0,09	0,71/0,025	0,5/0,018
	Sulphates	0,470	5,1/0,244	4,0/0,191
	Calcium	0,78	0,43/0,009	0,5/0,01
	Magnesium	1,6	1,0/0,012	1,13/0,014
	Carbonates	0,2	0,0	0,0
	Bicarbonate	28,0	0,55/0,034	0,75/0,046
km 310	pH units	6.40	7,1	6,97
	Dense residue	0.223	0,28	0,301
	Petroleum products	0.021	10,0	17,0
	Chlorides	0.238	0,22/0,008	0,2/0,007
	Sulphates	0.420	4,5/0,214	4,9/0,236
	Calcium	0.72	1,28/0,026	1,25/0,025
	Magnesium	0.69	0,63/0,008	0,5/0,006
	Carbonates	0.082	0,0	0,0
	Bicarbonate	50.0	0,4/0,024	0,45/0,027
Km 320 initial measurements in April 2018	pH units	7,20	7,44	7,66
	Dense residue	0,250	0,18	0,180
	Petroleum products	0,017	50,0	44,0
	Chlorides	0,08	0,50,018	0,48/0,017
	Sulphates	0,462	2,1/0,100	2,4/0,144
	Calcium	0,71	1,05/0,021	1,0/0,02
	Magnesium	1,1	0,5//0,006	0,38/0,005
	Carbonates	0,08	0,0	0,0
	Bicarbonate	32,0	0,5/0,031	0,4/0,024

Km 320 initial measurements in April 2018	pH units	No measurements were taken due to lack of construction work	7,99	7,83
	Dense residue		0,15	
	Petroleum products		50,0	48,0
	Chlorides		0,52/0,185	0,5/0,018
	Sulphates		2,65//0,127	2,2/0,108
	Calcium		1,35/0,028	1,23/0,025
	Magnesium		0,73/0,009	0,56/0,006
	Carbonates		0,0	0,0
	Bicarbonate		0,20/0,012	0,8/0,049

Annex 10

Results of measurements of atmospheric air, Lot 3

Sampling points	Name of pollutants	Actual concentration Initial measurement before beginning of the Project 24.04.18 mg/m³	MPC standard, mg/m³	Concentration, mg/m³	
				28.05.2020 mg/m³	18.06.2020 mg/m³
ACP section	Suspended particles	Not determined	0,3	0,075	0,075
	Nitrogen dioxide NO2	н/о	0,2	0,0451	0,0447
	Sulfur dioxide SO2	1,6	0,5	0,025	0,025
	Carbon monoxide CO	0,0012	5,0	1,67	1,74
	Formaldehyde CH2O	0,2	0,051	0,0015	
	Hydrocarbons C12-C19	n/d	1	0,5	0,5
	Hydrogen sulfide, H2S	0,0401	0,008	0,004	0,004
CBP section	Suspended particles	No measurements	0,3	0,075	0,075
	Nitrogen dioxide NO2		0,2	0,0477	0,0457
	Sulfur dioxide		0,5	0,025	0,025
	Carbon monoxide		5,0	1,61	1,6
	Formaldehyde CH2O		0,051	0,0015	0,0015
	Hydrocarbons C12-C19		1	0,5	0,5
	Hydrogen sulfide, H2S		0,008	0,0044	0,004
Railway dead end	Suspended particles		0,3	0,075	0,075
km 275	Inorganic dust 70-20%	0,071	0,3	0,	0,05
	Nitrogen dioxide NO2	0,069	0,2	0,0473	0,0463
	Sulfur dioxide	н/о	0,5	0,025	0,025
	Carbon monoxide	1,7	5,0	1,5	1,5
	Formaldehyde CH2O	0,0013	0,051	0,0015	0,0015
	Hydrocarbons C12-C19	0,13	1	0,5	0,5
	Benzene, C6H6	0,074	0,3	0,05	0,05

	Xylene C8H10	0,090	0,2	0,1	0,1
	Methylbenzene C5H6-CH3	0,2	0,6	0,6	0,3
	Hydrogen sulfide, H2S	n/d	0,008	0,004	0,004
km 285	Inorganic dust 70-20%	0,069	0,3	0,05	0,05
	Nitrogen dioxide NO2	0,067	0,2	0,0469	0,0458
	Sulfur dioxide	н/о	0,5	0,025	0,025
	Carbon monoxide	1,6	5,0	1,5	1,5
	Formaldehyde CH2O	0,0012	0,051	0,0015	0,0015
	Hydrocarbons C12-C19	0,12	1	0,5	0,5
	Benzene, C6H6	0,072	0,3	0,05	0,05
	Xylene C8H10	0,088	0,2	0,1	0,1
	Methylbenzene C5H6-CH3	0,3	0,6	0,3	0,3
	Hydrogen sulfide, H2S	n/d	0,008	0,004	0,004
km 300	Inorganic dust 70-20%	0,067	0,3	0,05	0,05
	Nitrogen dioxide NO2	0,068	0,2	0,0477	0,0469
	Sulfur dioxide	н/о	0,5	0,025	0,025
	Carbon monoxide	1,6	5,0	1,5	1,5
	Formaldehyde CH2O	0,0013	0,051	0,0015	0,0015
	Hydrocarbons C12-C19	0,12	1	0,5	0,5
	Benzene, C6H6	0,073	0,3	0,05	0,05
	Xylene C8H10	0,089	0,2	0,1	0,1
	Methylbenzene C5H6-CH3	0,2	0,6	0,3	0,3
	Hydrogen sulfide, H2S	n/d	0,008	0,004	0,004
km 310	Inorganic dust 70-20%	0,068	0,3	0,05	0,05
	Nitrogen dioxide NO2	0,069	0,2	0,0466	0,0466
	Sulfur dioxide	n/d	0,5	0,025	0,025
	Carbon monoxide	1,6	5,0	1,5	1,5
	Formaldehyde CH2O	0,0012	0,051	0,0015	0,0015
	Hydrocarbons C12-C19	0,13	1	0,5	0,5
	Benzene, C6H6	0,074	0,3	0,05	0,05
	Xylene C8H10	0,088	0,2	0,1	0,1
	Methylbenzene C5H6-CH3	0,2	0,6	0,3	0,3

	Hydrogen sulfide, H2S	n/d	0,008	0,004	0,004
km 320	Inorganic dust 70-20%	PB	0,3	0,05	0,05
	Nitrogen dioxide NO2	0,071	0,2	0,0473	0,0461
	Sulfur dioxide	н/о	0,5	0,025	0,025
	Carbon monoxide	1,7	5,0	1,5	1,5
	Formaldehyde CH2O	0,0013	0,051	0,0015	0,0015
	Hydrocarbons C12-C19	0,13	1	0,5	0,5
	Benzene, C6H6	0,075	0,3	0,05	0,05
	Ксилол C_8H_{10}	0,089	0,2	0,1	0,1
	Метилбензол C_5H_6-CH_3	0,3	0,6	0,3	0,3
	Hydrogen sulfide, H2S	n/d	0,008	0,004	0,004
km 330	Inorganic dust 70-20%	Measurements were not carried out due to the lack of construction work on this site	0,3	0,05	0,05
	Nitrogen dioxide NO2		0,2	0,0447	0,0458
	Sulfur dioxide		0,5	0,025	0,025
	Carbon monoxide		5,0	1,5	1,5
	Formaldehyde CH2O		0,051	0,0015	0,0015
	Hydrocarbons C12-C19		1	0,5	0,5
	Benzene, C6H6		0,3	0,05	0,05
	Ксилол C_8H_{10}		0,2	0,1	0,1
	Метилбензол C_5H_6-CH_3		0,6	0,3	0,3
	Hydrogen sulfide, H2S		0,008	0,004	0,004
Bitumen pit	Inorganic dust 70-20%	Measurements were not carried out due to the lack of construction work on this site	0,3	0,075	Measurements were not carried out
	Nitrogen dioxide NO2		0,2	0,0466	
	Sulfur dioxide		0,5	0,025	
	Carbon monoxide		5,0	1,57	
	Formaldehyde CH2O		0,051	0,0015	
	Hydrocarbons C12-C19		1	0,5	
	Benzene, C6H6		0,3	0,05	
	Ксилол C_8H_{10}		0,2	0,1	
	Метилбензол C_5H_6-CH_3		0,6	0,3	
	Hydrogen sulfide, H2S		0,008	0,004	

Annex 11

Summary data from environmental monitoring checklists **Lot 3**

Environmental monitoring checklist

Checklist for Lot 3 site inspection		
Date of site visit: 17.06.2020	**Engineer's representative:** Temirbek Zhenisgul **Contractor's representative:** Embergenov Anuar Environmental specialist	Engineer's ref.No. Contractor's ref.No.
Weather Conditions: +32 0 Southeast wind 2.1 m/s		
Work currently in progress:		
The problems related to environment	**Possible reasons**	**Proposed measures to reduce the risk**
Increased dustiness on the roads	lack of water resources.	Control over the schedule of dust suppression, additional sources of technical water

No.	**Measures for the environment protection**	**done**		**In progress**		**Comments**
		Yes	**No**	**Yes**	**No**	
Contractor's base camp						
1	Status of septic tanks					Septic tanks are cleaned daily
2	All wastewater is sent to septic tanks or service water tanks	✓				Control by the environmental specialist
3	All the dangerous liquids stored in a prescribed place on an impermeable base with effluent collection					Area concreted
4	Solid hazardous materials are stored in a safe place in the work areas	✓				Organize concreted special areas, install fencing to store hazardous materials in accordance with the requirements.
5	Drains accumulate in the drainage system and are disposed of by the Contractor	✓				According to the EMP
6	All vehicles entering and leaving the base camp are subject to control	✓				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	✓				

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
8	Open containers for storage of materials are covered with canopies	✓				Containers are installed with covers
9	Open burning is prohibited	✓				A briefing was held among the personnel of the subcontractor about restriction of incineration of solid waste
10	Fire Figurehting equipment ▪ Sand bucket and shovel ▪ Foam extinguisher ▪ Protective coating in canteen	✓				Log of fire extinguishers replacement
11	Access of other people to the town is prohibited by the installation of fencing and security organazing	✓				At the gate is the checkpoint, the contract with the security company
12	All employees are provided with personal protective equipment (PPE)	✓				
13	Smoking is prohibited except in Smoking rooms	✓				Repairing territory has a designated Smoking area.
14	Relevant road signs and warning signs on the site and in hazardous areas	✓				Signs are installed
15	Drinking water is provided to all employees from commercial and licensed sources.	✓				Needs assessment is carried out regularly
16	Protective clothes of all employees are washed on a daily basis	✓				Protective clothes of employees are washed as necessary According to sanitary and hygienic norms washing at least 2 times a week
17	All employees are provided with three meals a day	✓				
18	Canteen with sanitary conditions in base camp	✓				Sanitary days are held
19	First-aid posts and first-aid kit in base camp and in the working areas	✓				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	✓				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	✓				Base camp territory is cleaned daily from the excess of solid waste, and stored in the designated area.

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
22	Providing a place for rest in base camp	✓				There are rest rooms
23	Child labour (below 15 years)		✓			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	✓				
2	Liquid waste from the asphalt plant are kept in the established tank and they emptied specialised suction equipment ≤MTTSTH≥ Lyman	✓				Export by a specialized company for disposal according to the contract
3	Bitumen is stored in a specialised place and bent in concrete to a volume of 110%	✓				Bitumen storage is concreted Used periodicaly
4	Solid waste from the asphalt plant is stored at the designated places and disposed of in accordance with approved procedures	✓				With the periodic export for disposal on landfill
5	The area of the plant is engraved for the purpose of reducing dust	✓				
6	The area of the plant is watered for the purpose of reducing dust	✓				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	✓				
8	All workers of asphalt, concrete plant and crusher are provided with protective masks	✓				
9	All workers of asphalt, concrete plant and crusher use protective masks	✓				
10	Sands and fractions for concrete and asphalt are stored in a wet and covered place	✓				
11	In asphalt, concrete plants and crushers there are fire-Figurehting equipment		✓	✓		Fully understaffed
12	Plant or equipment causing high levels of vibration are built properly, maintained and managed accordingly	✓				In accordance with technical regulations
13	River/canal fenced for the protection of water resources		✓		✓	no need
GAS STATION						

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
1	Refueling will be strictly controlled and allowed only at the gas station and workshop	✓				
2	Space for storage tanks of fuel protected, and they are impermeable, tank cover closed	✓				According to the technical regulations
3	Gas station equipped with fire-Figurehting equipment to be checked weekly	✓				In accordance with schedule
4	The gas station has warning signs	✓				
5	The gas station is equipped with a special basket for excess waste	✓				Containers are provided
Contractor's workshop and car wash						
1	Liquid hazardous materials are stored in the designated place in workshop	✓				The site is concreted
2	Solid hazardous materials are stored in the designated place in the workshop	✓				
3	There are special containers for the collection of used petroleum products and hydraulic fluids	✓				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	✓				
5	The workshop is equipped with a drainage system	✓				
6	Each transport is inspected and maintained on an ongoing basis	✓				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		✓	✓		
8	The noise suppression equipment of all equipment is checked and maintained in accordance with the approved procedures		✓	✓		Not available
9	All workshop workers are provided with welding equipment and personal protective equipment	✓				
10	All technical water is collected in the concreted tank and the tank is cleaned in accordance with the approved procedures					No car wash
The Project Road						

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
1	All the roads targeted for construction work watered with the water truck	✓				Number of water trucks increased to 8 special control of areas locating near settlements
2	On the project road in appropriate places there are flags for the passage of cattle, sheep and other animals	✓				Warning signs in frequently used areas for cattle are installed
3	Sections of culverts and bridges, equipped with safety tapes and twisting signs	✓				Provided with necessary signs
4	Fencing and access control services are installed at all workplaces where it is necessary	✓				
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)	✓				
6	Work areas and hazardous areas are equipped with all relevant road signs and warning signs	✓				
7	Construction machinery and plants are properly maintained to reduce gas emissions	✓				According to the schedule of PEM are monitoring emissions
8	Noise control measures in special facilities	✓				PPE provided: ear plugs Work time limit
Quarries						
1	Quarries are provided with temporary drainage	✓				
2	200 m from the nearest settlements, all construction work stopped from 22: 00 to 6: 00 a.m.	✓				
3	Crushed stone of all size are extracted only from approved quarries	✓				
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	✓				
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	✓				The control of the senior mechanic
7	During the construction works the volume of noise is limited according to national standards	✓				Schedule of works on objects with high noise and vibration

No.	Measures for the environment protection	done		In progress		Comments
		Yes	No	Yes	No	
8	Materials with possible dust formation do not load exceeding the level of folding bodies and close with a clean tarpaulin	✓				
9	All vehicles, production equipment and devices comply with Euro exhaust emission standards		✓			Equipment rented from villagers does not meet the standards
10	All temporary acquired lands are restored					Upon completion of construction works
11	All material residues and contaminated land are collected and disposed of in accordance with approved procedures	✓				
12	During the delivering and using materials, it is watering	✓				Control by the environmental specialist
13	Any direct sites damaged as a result of a dump of soil, are restored to an original look	✓				
14	The riverbanks are protected from the contractor's materials storages or temporary stacks	✓				
15	The negative effects or disruption due to construction work is monitored, with an acceptable level in accordance with the standards	✓				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	✓				Dust suppression ensured, flagman at the entrance/exit of the road
17	Draining and draining water, avoiding flooding or causing damage to other works or services causing erosion	✓				
Flora and Fauna						
1	Trees and shrubs that are outside the construction site, but within the road reserve, are usually protected from damage					No greenery
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					Such works are not provided
4	Trees and shrubs are cut down and removed only if they interfere with the necessary temporary or permanent work					No requirement
5	Construction work is not carried out on the construction sites of the bridge during the harvest (specify Yes or No		✓			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	✓				

Annex 12

Защитные меры по COVID 19 Лот 2

«АҚӨИК » ААҚ ФИЛ-НЫҢ АҚТӨБЕ Қ.
ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ

ФОАО«СПИК АККОРД»Г.АКТОБЕ
В РЕСПУБЛИКЕ КАЗАХСТАН

Б Ұ Й Р Ы Қ
(өндіріс бойынша)

П Р И К А З
(по производству)

2020 жылғы «18» наурыз
Қарауылкелді ауылы

№ 02 /п

« 18 » марта 2020 года
с.Карауылкелды

«О профилактике соблюдения дезинфекционного режима на объектах массового пребывания граждан, по предотвращению заражения COVID-19 короновируса от потенциального источника в вахтовом городке ОАО «СПИК АККОРД» с. Караукельды»

В связи с введением чрезвычайного положения на территории Республики Казахстан 16.03.2020года. В целях предупреждения завоза и распространения коронавирусной инфекции и Согласно Постановления Главного государственного санитарного врача Республики Казахстан от 4 марта 2020 года № 12-ПГВр О дальнейшем усилении мер профилактики коронавирусной инфекции в Республике Казахстан,

ПРИКАЗЫВАЮ:

1. **Абитову Т.Т. начальнику отдела ОТ и ТБ совместно с Айтжановой Г.Е. медсестрой участка разработать** комплекс мероприятий по профилактике для защиты и предупреждения возможного заражения короновируса COVID-19 от потенциального источника.
2. **Абитову Т.Т. начальнику отдела ОТ и ТБ совместно с Айтжановой Г.Е. медсестрой участка провести** разъяснительную работу в компании и **выдать** каждому работнику Памятку по предупреждению коронавируса.
3. **Абитову Т.Т. Начальнику отдела ОТ и ТБ совместно с Айтжановой Г.Е. медсестра участка завести** журнал и **проводить** разъяснительную работу по профилактике короновируса с вновь прибывшими и поступившими на работу работниками.
4. **Абитову Т.Т. начальнику отдела ОТ и ТБ совместно с Айтжановой Г.Е. медсестрой участка проводить проверку ежедневно** по соблюдению норм требований по профилактике короновируса на всех участках строительства и вахтового городка.
5. **Фаткулину М.М. менеджеру МТС** обеспечить всеми антисептическими средствами и оборудованием для профилактических работ на производстве.
6. Контроль за исполнением настоящего приказа возложить на **Абитова Т.Т. начальника отдела ОТ и ТБ.**

Директор филиала **А.Н. Пшеничный**

«СТРОИТЕЛЬНО-ПРОМЫШЛЕННАЯ ИНВЕСТИЦИОННАЯ КОРПОРАЦИЯ АККОРД»

С приказом ознакомлены:

1. _____ Абитов Т.Б.
2. _____ Айтжанова Г.Е.
3. _____ Фаткулин М.М.

«Утверждаю»
Директор
ФОАО «СПИК АККОРД» г.Актобе в Республике Казахстан
_____Пшеничный А.Н.
от «___» _____ 2020года
МП.

ФОАО «СПИК АККОРД» г.Актобе в Республике Казахстан _____
(наименование организации)

Процедуры

по предупреждению китайского коронавируса

Гигиена

Регулярно мойте руки или обрабатывайте их спиртосодержащим средством- антисептиком. Если вирус окажется на поверхности рук такие меры его устранят. При кашле и чихании прикрывайте рот и нос салфеткой или сгибом локтя; сразу выкидывайте салфетку в контейнер для мусора с крышкой. После этого не поленитесь снова помыть руки или воспользуйтесь антисептиком. Прикрывание рта и носа при кашле и чихании позволяет предотвратить распространение вирусов и других болезнетворных микроорганизмов. Если при кашле или чихании прикрывать нос и рот рукой, микробы могут попасть на ваши руки, а затем на предметы или людей, к которым вы прикасаетесь.

Помните о дистанции

Держитесь от людей на расстоянии как минимум 1 метра, особенно если у них кашель, насморк и повышенная температура. Кашляя или чихая, человек, болеющий респираторной инфекцией, такой как 2019-nCoV, распространяет вокруг себя мельчайшие капли, содержащие вирус. Если вы находитесь слишком близко к такому человеку, то можете заразиться при вдыхании воздуха. Не трогайте лицо Как можно меньше касайтесь руками лица, рта и носа. Руки касаются многих поверхностей, на которых может присутствовать вирус. Прикасаясь содержащими инфекцию руками к глазам, носу или рту, можно перенести вирус с кожи рук в организм.

Питание

Не употребляйте в пищу сырые или не прошедшие надлежащую термическую обработку продукты животного происхождения. В соответствии с правилами обеспечения безопасности продуктов питания особую осторожность следует проявлять при обращении с сырым мясом, молоком или органами животных во избежание перекрестного

загрязнения продуктами питания, не прошедшими термическую обработку. Не контактируйте с испорченной едой.

Берегите себя

Не время геройствовать. Если у вас появилась температура, кашель, проблемы с дыханием, отложите дела, связанные с выходом из дома. Как можно быстрее обращайтесь за медицинской помощью. Контакт с животными Обязательно мойте руки после прикосновения к животным или продуктам животного происхождения. Само собой, не трогайте больных и/или бродячих животных.

Путешественники

Если вы посещали страны, где регистрируется 2019-nCoV, или тесно общались с кем-то, у кого после поездки из этих регионов наблюдаются симптомы респираторного заболевания, сообщите об этом медицинскому работнику.

ORDER

"On the prevention of compliance with the disinfection regime at the facilities of mass stay of citizens, to prevent infection with COVID-19 coronavirus from a potential source in the camp of ICIC AKKORD OJSC Karaukeldy village"

In connection with the introduction of a state of emergency on the territory of the Republic of Kazakhstan from 16.03.2020. In order to prevent importation and spread of coronavirus infection and according to the Resolution of the Chief State Sanitary Doctor of the Republic of Kazakhstan dated March 4, 2020 No. 12-PGVr On the further strengthening of measures to prevent coronavirus infection in the Republic of Kazakhstan,

ORDER:

1. Abitov T.T. Head of the Department of Health and Safety, together with Aitzhanova G.E. the site nurse to develop a set of preventive measures to protect and prevent possible infection of the coronavirus COVID-19 from a potential source.

2. T. T. Abitov to the head of the department of health and safety together with G. Aitzhanova the site nurse to educate company and give each employee a Coronavirus Prevention Warning Sheet.

3. Abitov T. T. Head of the department of health and safety together with G. Aitzhanova. the site nurse to keep a log and conduct explanatory work on the prevention of coronavirus with newly arrived and employed workers.

4. Abitov T. T. Head of the Department of Health and Safety, together with G. Aitzhanova. the site nurse to inspect daily for compliance with the requirements for the prevention of coronavirus at all construction sites and the camp.

5. Fatkulin M.M. the supply manager to provide all antiseptic agents and equipment for prevention measures

6. Control over the implementation of the present labor protection and safety is on Abitov T.T. health and safety department.

Branch Director Pshenichniy A.N.

Director
OJSC «ICIC AKKORD» Aktobe
Republic of
Kazakhstanн
Pshenichniy A.N.
от «___» _____
2020

6.3 Procedures for the prevention of Chinese coronavirus

Wash your hands regularly or treat them with an alcohol-based hand sanitizer. If the virus ends up on the surface of the hands, such measures will eliminate it. Cover your mouth and nose with a tissue or the crook of your elbow when coughing or sneezing; Throw the tissue immediately into a lidded waste container. After that, do not be lazy to wash your hands again or use an antiseptic. Covering your mouth and nose when coughing and sneezing helps prevent the spread of viruses and other pathogens. Covering your nose and mouth with your hand when coughing or sneezing can spread germs on your hands and then on objects or people you touch. Remember distance at least 1 meter away from people, especially if they have a cough, runny nose, or fever. When a person with a respiratory infection such as COVID-19 coughs or sneezes, they spread tiny droplets containing virus around them. If you are too close to such person, you can become infected by breathing air. Do not touch your face. Place your hands as little as possible on your face, mouth and nose. Hands touch many surfaces where the virus may be present. Touching your eyes, nose, or mouth with infected hands can transfer the virus from your hands to your body. Do not eat raw or undercooked animal products. In accordance with food safety regulations, special care must be taken when handling raw meat, milk or animal organs to avoid cross-contamination with food that has not undergone heat treatment. Do not come into contact with spoiled food, take care of yourself.

This is not the time to be heroic. If you have a fever, cough, or breathing problems, postpone leaving the house. Seek medical attention as soon as possible. If contact with animals always wash your hands after touching animals or animal products. Of course, do not touch sick and/or stray animals.

Travelers. if you have visited countries where COVID-19 is registered, or have had close contact with someone who has symptoms of respiratory illness after traveling from these regions, please inform your healthcare officer.

Учетный лист

по предупреждению китайского коронавируса

С мерами предосторожности по распространению и профилактике короновирусной инфекции ознакомлен.

	Дата	Ф.И.О.	Должность	Подпись
1.	01.04.20	Ермагамбетов Малик	Менедж. по пф	
2.	01.04.20	Карин Бибит	Нач. СБ	
3.	01.04.20	Аскаров Ерил	Нач БЦ	
4.	01.04.20	Кусаинов Бирлан	р/рабоч	
5.	01.04.20	Тажир Руслан	р/рабоч	
6.	01.04.20	Аскаров Серик	р/рабоч	
7.	01.04.20	Абилов Темур	Нач ГБ	
8.	01.04.20	Айтжанова Гульнайши	м/с участка	
9.	01.04.20	Конысбаев Избасар	Инж ПТО	
10.	01.04.20	Дарменов Ерлан	Комендант	
11.	01.04.20	Бекенов Бекзат	Ст. опер Г.З.	
12.	01.04.20	Розбаев Мансур	Электрик	
13.	01.04.20	Калдымуратов Нурмагуль	Зав. общеж.	
14	01.04.20	Кожан Гульнар	Техперс	
15	01.04.20	Сатбалдиева Анар	Техперс	
16	01.04.20	Аманкулова Назым	Техперс	
17	01.04.20	Галым Колтанат	Весовщик	
18	01.04.20	Мустафаев Темур	р/рабоч	
19	01.04.20	Шепиров Жанмер	р/рабоч	
20	01.04.20	Абдукеров Айбек	р/рабоч	
21	01.04.20	Ажкен Аянгали	Ст. лабор	
22	01.04.20	Маркабаев Жаксылык	Инженер	
23	01.04.20	Ермуканов Артур	Контролер	
24	01.04.20	Нукаев Серик	водит	
25	01.04.20	Ибраев Бауржан	опер. кобко	
26	01.04.20	Есентурлин Канат	опер. кобко	
27	01.04.20	Базаров Берик	Маст. участ.	
28	01.04.20	Макаров Жанибек	арм-к	
29	01.04.20	Шаймарданов Абдулхалиқ	Монт-к	
30	01.04.20	Нурмаев Нурбол	Монт-к	
31	01.04.20	Есжанов Айтуар	Монт-к	
32	01.04.20	Серкенбаев Марат	Маст. уч-ка	
33	01.04.20	Гусейнов Сергей	Опер. БХ	
34	01.04.20	Журавель Владимир	Опер БХ	
35	01.04.20	Келере В.В.	Инж. геод.	
36	01.04.20	Серекбаева Гульнараш	Техн. геод.	
37	01.04.20	Нурмабаев Асылан	Рееч.	

Учетный лист
по предупреждению китайского коронавируса

С мерами предосторожности по распространению и профилактике короновирусной инфекции ознакомлен.

	Дата	Ф.И.О.	Должность	Подпись
38.	01.04.20	Балабаева Нуржгуль	Повара	
39.	01.04.20	Аминова Майрамбубу	Повар	
40	01.04.20	Мусаев Заур	Транс. раб.	
41	01.04.20	Гулеев Бахтиер	Нач. [illegible]	
42	01.04.20	Сариев Эльдар	Автогр.-5	
43.	01.04.20	Мамадов Анар	Нач. АЗС	
44	01.04.20	Байрамов Рамраб	Сл-р АБЗ, БСУ	
45	01.04.20	Султанов Кайрат	оп. погрузчик	
46	01.04.20	Айтмагамбет Алмат	водит	

Annex 13

Medical information stand on Lot 2

Disinfectant treatment of residential premises of the Lot 2 camp

Disinfectant treatment of showers of the Lot 2 camp

Disinfectant treatment of the Lot 2 camp

Annex 13

Site photos

Winter maintenance Lot 1, February 2020

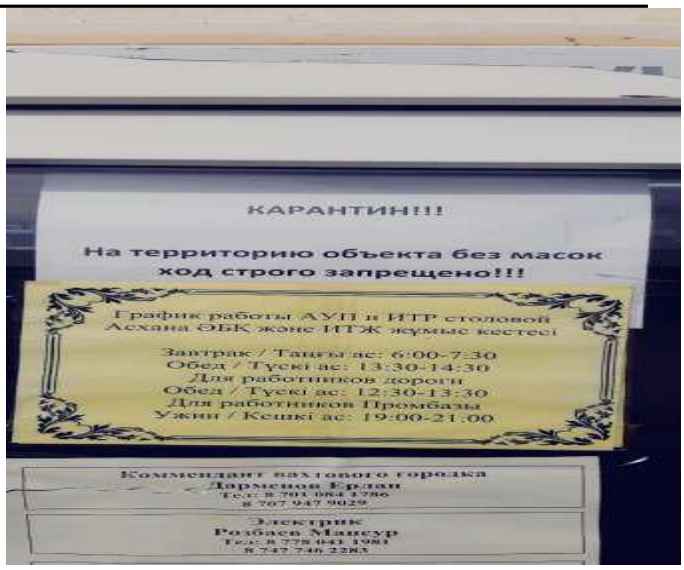
Winter maintenance Lot 1, March 2020

Measurements of the air pollution level near the NW of Kopa village

selection of soil samples for laboratory analysis, Lot 1

Maintenance of safety signs, Lot 2 , February 2020

Join safety inspections with the police of Baiganin district (Lot 2), June 2020



Security measures in Lot 3 camp.
Disinfecting premises and informing about measures

Winter maintenance Lot 3

Leveling by grader on Lot 3

Measurements of noise and vibration level on lot 3

Noise level measurements at PB "Nogayty" Lot 3