

Environmental Monitoring Report

Project Number: 48424-002
Semestral Report (July–December 2020)
April 2021

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

Prepared by the Dongsung Engineering Co., Ltd in association with subconsultant Zhol-Sapa LLP for the Ministry of Investments and Development, Republic of Kazakhstan and the Asian Development Bank.

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Environmental monitoring report

Project number: No.3416-KAZ
Reporting period: July-December 2020

REPUBLIC OF KAZAKHSTAN: CAREC CORRIDORS 1 AND 6 CONNECTOR ROAD (AKTOBE-MAKAT) RECONSTRUCTION PROJECT (SECTION KM 330-504)

Funded by the ASIAN DEVELOPMENT BANK

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Approved by: PMC "NC "KazAutoZhol" JSC
(PMC's specialist name) and signature, report submission date

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ABBREVIATIONS

ADB	Asian Development Bank
CAREC	Central Asian Regional Economic Cooperation
CFR	Committee for Roads
Covid-19	coronavirus infection 2019-nCoV
CSC	Construction Supervision Consultant
ECP	Environmental Control Program
EMP	Environmental Management Plan
EnMP	Environmental Monitoring Plan
EHS	Environmental, Health and Safety Guidelines
FLM	Fuel and lubricant materials
HR	Hygienic Regulations
HSP	Health and Safety Plan
IEM	Industrial Environmental Monitoring (carried out by an accredited laboratory)
LV	Limiting Value
LW	Liquid Waste
MIID	Ministry of Industry and Infrastructural Development
MPC	Maximum Permissible Concentration
MPL	Maximum Permissible Level
PMC	Project Management Consultant
QAJ	“National Company “QazAvtoJol” JSC
RD	Regulatory Document
RK	Republic of Kazakhstan
RMD	Road Maintenance Depot
RSE	Republic State Enterprise
RZ	Residential Zone
SAEMR	Semi-annual Environmental Monitoring Report
SPZ	Sanitary Protection Zone
SSEMP	Site Specific Environmental Management Plan
SW	Solid Waste
TS	Traffic Safety

1. INTRODUCTION

1.1 Preamble

1. This report is a semi-annual environmental monitoring review (second half of 2020) for the CAREC Corridors 1 & 6 Connector Road (Aktobe - Makat) Reconstruction Project (road section km 330-504, Lots 4-7). The report is the sixth semi-annual report since the project beginning.

1.2 Key information

2. In July 2018, three Contracts were awarded through re-tender process to “Shanghai Construction Group” (hereinafter “SCG”) and “Akkord” and “Ak Zhol Kurylys” Joint Venture (hereinafter “AA”). Contracts Lot-4 and Lot-5 were awarded to the SCG and Lot-6 to AA. These new Contractors have started works of mobilization and preparation on the site since August 2018.
3. The Contractor “Shanghai Construction Group Co.” which is the Contractor of Lot 4 Contract 004-ADB/CW-2018 and Lot 5 Contract 005-ADB/CW-2018 received advance payments in July 2018. The Contractor acquired “Shanghai Construction Group Co.” Branch Office Registration certificate on 30.10.2018. Also, the Contractor received license for road construction of relevant category on 24.12.2018. The Engineer officially issued “Notice to Commence Works” on 08.01.2019.
4. For Lot 4 the Engineer determines under Sub-clause 3.5 of GCC by his letter ref.no. ATR/CoR-2295 dated 11.11.2020 that:
 - a. Due to delayed obtaining the Extraction Permit of Borrow-Pits, the Contractor was affected for 110 days in executing the Earthwork, and the Contractor’s claim for an Extension of Time of 330 days is rejected.
 - b. The Contractor is entitled to an Extension of Time for 110 days due to delay obtaining the Extraction Permit of Borrow-Pits and therefore, the Time for Completion should be changed to 25.06.2021 from the Original Date of Time for Completion of 07.03.2021.
 - c. The Employer shall not be liable to compensate any of loss of Indirect consequential loss of Time in delay pursuant to the Subclause 17.6 [Limitation of Liability] of GCC.
5. The Contractor “Akkord - Ak zhol kurylys” of Lot 6 Contract 006-ADB/CW-2018 received an advance payment on 27.07.2018. The Contractor received a permission (talon) for the construction and installation works from the Department of State Architectural and Construction Control. “Order to Proceed” have been acquired from Employer and approved by Traffic Police. The Engineer officially issued “Notice to Commence Works” on 01.10.2018. Land preparation for base camp construction has been completed on 3 ha area at km 435 of project road, near Zhamansor village on 25.03.2019. All facilities of base camp, constructed until to date, accommodated by the Contractor’s workers and engineers, also by the Construction Supervision Engineers, and all facilities are in operation since 01.03.2019.
6. In 2019 on Lot 5 the issue was considered to change material for Additional Base Layer of soil consolidated by cement (soil – 80%, SGM – 16%, stabilizing additive – 0,002%), H-20 cm to alternative variant of SGM (sand gravel mix) sub-base, H-20 cm.
7. For Lot 5 the Engineer determines under Sub-clause 3.5 of GCC by his letter ref.no. ATR/CoR-2296 dated 11.11.2020 that:
 - a. Due to delayed obtaining the Extraction Permit of Borrow-Pits, the Contractor was affected for 110 days in executing the Earthwork, and the Contractor’s claim for an Extension of Time of 330 days is rejected.
 - b. The Contractor is entitled to an Extension of Time for 110 days due to delay obtaining the Extraction Permit of Borrow-Pits and therefore, the Time for Completion should be

- changed to 23.09.2021 from the Original Date of Time for Completion of 05.06.2021.
- c. The Employer shall not be liable to compensate any of loss of Indirect consequential loss of Time in delay pursuant to the Subclause 17.6 [Limitation of Liability] of GCC.
8. On Lot 6, regarding the Package of “Kandagash–Makat 19km Reconstruction”, the Contractor has made ‘New Proposal’ taking into account the daily prices selectively for labor inouts, machines and equipment as per the Daywork Schedule in the Contract whilst the rate of material being applied the ‘factual market price’ as a ‘new rate or price’ by his letter ref. no. AA-143-2020 dated 27.07.2020. The Engineer requested the contractor to provide the contractual background of ‘new rate or price’ proposed by letter ref. no. ATR/6-2053 dated 27.07.2020. Project Management Consultant “NC KazAutoZhol” JSC advised the Engineer not to proceed further action in September 2020.
9. The Contractor claimed for Extension of Time for completion for the 409 calendar days due to the period of processing of Borrow-Pit Permits by the letter AA-217-2020 dated 09.10.2020 as the Contractor considers the Project has affected in Delay due to uncertainty of the Procedures for application of Permits as well as the State Authority could not determine the Certain responsible authority for conducting the comprehensive examination of the plan for extracting the subsoil and its reinstatement. The Engineer determined under Sub-clause 3.5 of GCC that :
- a. Due to delayed obtaining the Extraction Permit of Borrow pits, the Contractor was affected for 274 days in executing the Earthwork, and the Contractor’s claim for an EOT of 409 days is rejected;
 - b. The Contractor is entitled to an Extension of Time for 274 days due to delay obtaining the Extraction Permit of Borrow-Pits and therefore, the Time for Completion should be changed to 30.08.2021 from the Original Date of Time for Completion of 29.11.2020;
 - c. The Employer shall not be liable to compensate any of loss of Indirect consequential loss of Time in delay pursuant to the Subclause 17.6 [Limitation of Liability] of GCC;
 - d. Accordingly, the Contractor will be imposed the Delay Damages of the amount of 0.01% of the Accepted Contract Amount per day if the Contractor has failed to achieved 45% of Physical Progress by 395 days from the Date of Commencement of Work pursuant to the Subclause 8.7.
10. The Contractor Lot 7 prepared Proposal of Variation for the package of “Dossor Bypass Way Construction – the Work will be the terms of Phase II Work” which the Engineer instructed and the Design Documents and Cost Estimation have been obtained Positive Conclusion by the State Expertise on 30.03.2020.
11. The Engineer has reviewed the Contractor’s Proposal submitted and the Engineer has evaluated as per the Subclause 12.3 [Evaluation] of GCC where to be processed under the procedure of Subclause 13.3 [Variation Procedure] of GCC providing a consultation with each Party by various occasions in an endeavor to reach agreement and the Engineer confirms each Party has reached preliminary agreement with the Amount of KZT 2 430 675 631,01 (Two Billion Four Hundred Thirty Million Six hundred Seventy Five Thousand Six Hundred Thirty One Tenge and One Tyin) including the amount of VAT as per the Engineer’s Evaluation. Therefore, pursuant to the Subclause 3.5 [Determination] of GCC, the Engineer shall notice the “Engineer’s Determination” of the Bill of Quantity (B.O.Q) for the Package of “Dossor Bypass Way Construction” as evaluated under the Subclause 12.3 [Evaluation] to the Employer and the Contractor as it shall effect to each Party as the Engineer determined.
12. The Engineer revised and re-evaluated the Bill of Quantity of the Package of “Dossor Bypass Way

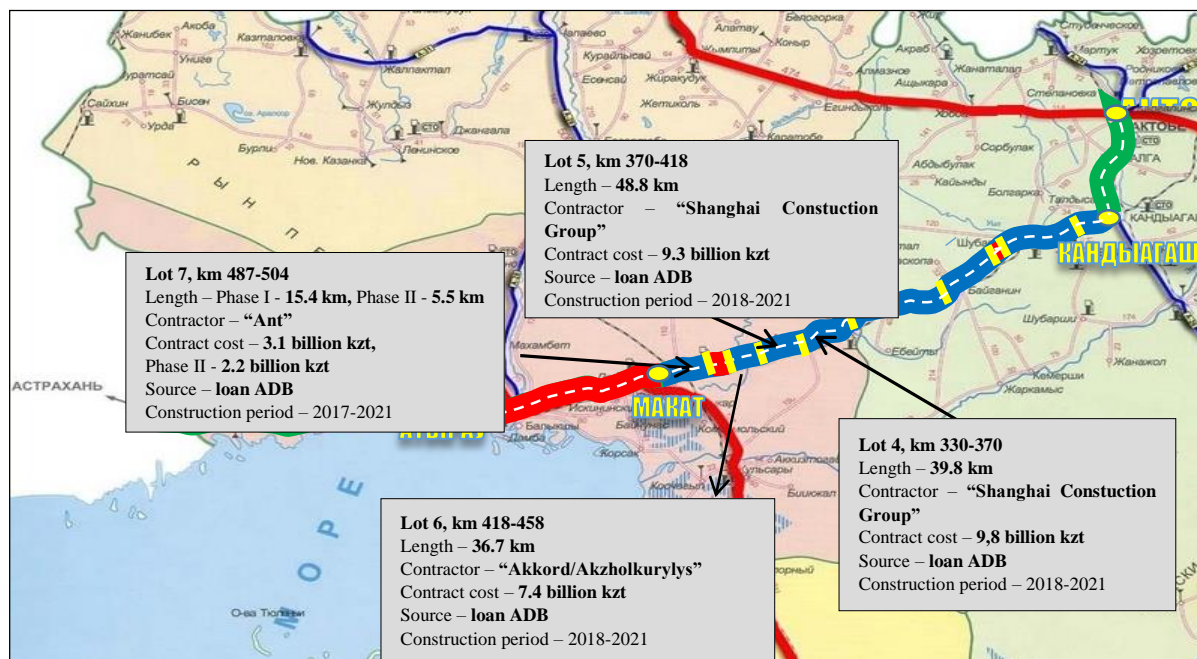
Construction” with the Amount of KZT 2 378 137 587.43 including the amount of VAT by his letter ref.no. ATR/Cor-2146/1 dated 09.09.2020.

13. The Variation Order No.3 prepared in accordance with Sub-Clause 13.1 and 13.2 FIDIC General Conditions of Contract on 10 September 2020. This is for Additional Work to construction of “Dossor Bypass Way” for Total length of 5.52 Km with Asphalt Pavement with Road Furnitures, Markings and Street Lightings including Culverts, Cattle Passes. It has Effects of Time Extension of Construction Period of 10months.
14. The Engineer received the Design Documents of “Dossor Bypass Way” construction by the Employer’s representative of “NC KazautoZhol” JSC Atyrau branch on 08.10.2020. Having reviewed, the Engineer found some discrepancies as to Design Regulations and submitted the “Design Review Notice” to the Project Designer of “EngineerProjectStroi” LLP for Engineering Explanation and/or Clarification by his letter ATR/DGN-2248 dated 20.10.2020. The Project Designer of “EngineerProjectStroi” LLP informed they re-submitted a hard copy of design to “NC KazautoZhol” JSC Atyrau branch on 29.10.2020 by the letter ref.no.490 dated 30.10.2020.

2. PROJECT DESCRIPTION AND CURRENT ACTIVITIES

2.1 Project Description

15. "Aktobe - Atyrau - Border of the Russian Federation to Astrakhan" Road is a republic importance road. The project section is a road section, connecting the northern and western regions of Kazakhstan with each other, with access to the Russian Federation, which requires increased requirements for transport and operational characteristics of the road.



Picture 1. Location of the project road

16. The project road category is II, according to the traffic intensity. Road construction is carried out on 4 Contracts, as indicated below.
17. **Lot 4: km 330 – km 370 (Sagiz village):** This section includes the reconstruction of the road from category III to category II with a total length of 40 km. Other parts of this section, the direction of traffic flow coincide with the existing coverage with partial slopes from the embankment in the area of rectification and curve. On this site, the project provides for the construction of 2 bridges and 1 overpass. Overpass on km 336+900, the length is 42.2 meters. The bridge across the river Nogaity on km 338+900 has the length of 66,15 meters. The bridge across the river Sagiz at km 342+300 has the length of 105,3 meters. This site provides the construction of 14 culverts of different diameters, 6 cattle passes and 2 rest areas.
18. **Lot 5: km 370 – km 418 (v.Mukur - v. Zhanterek):** This section includes the reconstruction of the road from category III to category II with a total length of 48.2 km. Other parts of this section, the direction of traffic flow coincide with the existing cover with partial slopes from the embankment in the area of rectification and curve. On this site, the project provides for the construction of 1 bridge. The bridge across the river Mukur at km 379 +100 has the length of 48.55 meters. Also on this site, the construction of 12 culverts of different diameters, 8 cattle passes, 2 rest areas are provided.
19. **Lot 6: km 418 – km 458 (v. Zhamansor):** This section includes the reconstruction of the road from category III to category II with a total length of 36.73 km. Other parts of this section, the direction of traffic flow coincide with the existing coverage with partial slopes from the embankment in the

area of rectification and curve. On this site, the project provides for the construction of 1 bridge. The bridge across the river Sagiz at km 429+000 has the length of 84,25 meters. The project also provides the construction of 12 culverts of different diameters, 1 cattle pass and 2 rest areas.

20. **Lot 7: km 487 – km 504 (v. Dossor):** length of this road section is 15,392 km, type II, 2 lanes. This section includes the reconstruction of the road from category III to category II. Other parts of the site, the direction of traffic flow coincide with the existing coverage with partial slopes from the embankment in the area of rectification and curve. This section provides the construction of 12 culverts of different diameters and 2 cattle passes. The Contractor has completed the Works substantially as of 31 July 2019 (as the terms of Phase I Work). The Engineer has issued the "Taking-Over Certificate" with effect of 31 July 2019 in accordance with Sub-Clauses 10.1 and 10.2 of General Conditions of Contract. Outstanding works and defects have been registered with the Taking-Over Certificate for the Contractor to expedite. The Contractor has completed remaining works as of 30.11.2019. Cumulative progress of works is 97.29% achieved Vs 97.29% planned with 148.52% of elapsed time. The balance 2.71% is composed of "International Calls" and "Day Works" which have not been necessary to be implemented and it will adjust finally.
21. The Contractor Lot 7 prepared Proposal of Variation for the package of "Dossor Bypass Way Construction – the Work will be the terms of Phase II Work" which the Engineer instructed and the Design Documents and Cost Estimation have been obtained Positive Conclusion by the State Expertise on 30.03.2020. The Variation Order No.3 prepared in accordance with Sub-Clause 13.1 and 13.2 FIDIC General Conditions of Contract on 10 September 2020. This is for Additional Work to construction of "Dossor Bypass Way" for Total length of 5.52 Km with Asphalt Pavement with Road Furniture, Markings and Street Lightings including Culverts, Cattle Passes. It has Effects of Time Extension of Construction Period of 10 months.



Picture 2. Dossor Bypass way location map, Lot 7 Phase II

Table 1: Project Information Data

<As of 31.12.2020>

No	Description	Contract			
		Lot 4	Lot 5	Lot 6	Lot 7
1	Contractor	"Shanghai Construction Group Co. Ltd."	"Shanghai Construction Group Co. Ltd"	"Akkord / Akzhol Kurylys" JV	JSC "Ant Insaat Maden Sanayi A.S."
2	Road Length	39,80 km	48,20 km	36,74 km	15,39 km
3	Contract Amount (Tg)	9 819 136 480	9 396 291 820	7 421 155 010	3 177 195 256 (Phase I)
4	Date of Contract Signing	20.07.2018	20.07.2018	10.07.2018	16.08.2017
5	Commencement Date	08.01.2019	08.01.2019	01.10.2018	20.12.2017 (Phase I) 04.12.2020 (Phase II)
6	Time for Completion (Days)	790	880	790	Phase I : 540 Phase II : 300
		+110	+110	+274	
		07.03.2021	05.06.2021	29.11.2020	12.06.2019
7	Defects Liability Period	Extended 25.06.2021	Extended 23.09.2021	Extended 31.08.2021	Phase II 29.09.2021
		2 years (730 days)	2 years (730 days)	2 years (730 days)	2 years (730 days)
8	No. and length of bridges	2 nos. 171.45 m	1 no. 48.55 m	1 no. 84.25 m	0
	No. and length of overpass	1 no. 42.2 m	0	0	0
	No. of culverts	20	20	13	Phase I : 14 Phase II : 9
	No. of RMD	1	0	2	0

2.2 Agreements (contracts) for the project implementation and management

22. CFR MID RK signed the contract with "NC "QazAvtoJol" JSC (QAJ) for the project management consulting services in accordance with requirement specifications acceptable for ADB and applicable under the legislation of the Republic of Kazakhstan. QAJ is fully staffed during the Project implementation. The responsible specialist for environmental and social safeguard measures conducts site audits and inspections, cooperates with CSC safeguard specialist in order to effectively manage the project in part of environmental plans implementation.
23. By decree of President of the Republic of Kazakhstan dated 26.12.2018 No. 806 "On measures on further improvement of state administration system of the Republic of Kazakhstan", in order to improve the efficiency of state administration system, the Ministry of Investment and Development of the Republic of Kazakhstan was reorganized by transforming it into the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan with handing over functions and powers: to National Economy Ministry of the Republic of Kazakhstan in the sphere of state policy

formation on investment attraction and the Ministry of Foreign Affairs of the Republic of Kazakhstan in the sphere of state policy implementation on investment attraction.

24. The regional representative of the Employer is "NC "QazAvtoJol" JSC Atyrau branch. A list of main organizations and their environmental staff for this project and related to environmental protection measures (Environmental Safeguards), is given in the Table No.2 below.

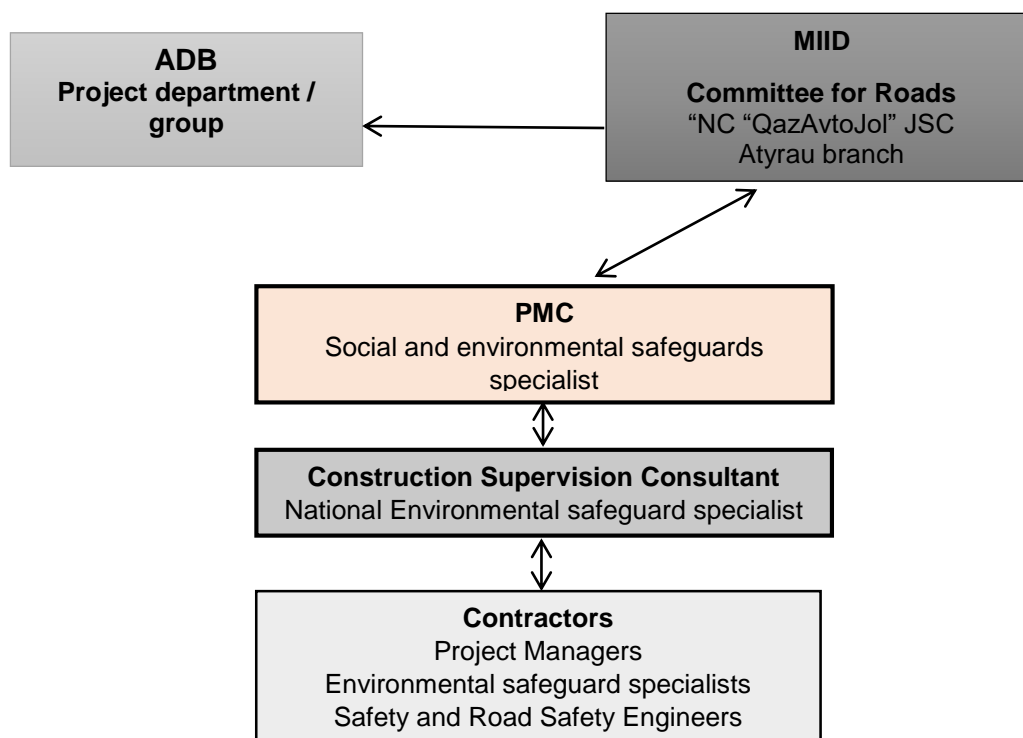
Table 2. Organization list and specialists' contact information, related to the Project Environmental Safeguards (as of December 2020)

Organization name	Representative	Contact information
ADB Project department / group (Head quarter Manila)	Armine Yedigaryan Environmental specialist	ayedigaryan@adb.org
ADB office in RK	Malika Babadzhanova Environmental safeguard consultant ADB RETA 9541	mbabadjanova1.consultant@adb.org
Committee for Roads	Ruslan Kussainov	Nur-Sultan city 010000 / Transport Tower / Kabanbay Batyr street 32/1 8 778 668 70 06 r.kusainov@miid.gov.kz
"NC "QazAvtoJol" JSC Atyrau branch	Basharov Zhanabai Branch Director	atyrau.info@kazautozhol.kz
PMC "NC "QazAvtoJol" JSC	Zeinullina Aliya Social and environmental safeguard specialist	+ 7 701 982 66 57 a.zeinullina@kazautozhol.kz
CSC DONGSUNG ENGINEERING CO. LTD/ "ZS ENGINEERING " LLP	Novossadova Natalya Imbarova Sara Environmental and social safeguards specialists	+7 701 362 36 12 atyrau_kns2@mail.ru
"Shanghai Construction Group Co." Lot 4	Satvaldinov A. Environmental specialist	+7 778 045 07 14 satvaldinov_azamat@mail.ru
"Shanghai Construction Group Co." Lot 5	Gulzhanat Zhantokova Environmental specialist	+7 777 298 88 44 g.zhk@bk.ru
Joint Venture "Akkord / Ak zhol kurylys", Lot 6		
"Ant Insaat Maden Sanayi A.S." Lot 7 Dossor Bypass, Phase II		

Table 3. Contractors' Contract Information

Contractor	Contract No.	Site length (km)	Contract signing date	Project commencement and completion date
Lot 4 "Shanghai Construction Group Co." (China)	004-ADB/CW-2018	39.80	20.07.2018	08.01.2019 25.06.2021
Lot 5 "Shanghai Construction Group Co." (China)	005-ADB/CW-2018	48.21	20.07.2018	08.01.2019 23.09.2021
Lot 6 JV "Akkord / Ak zhol kurylys" (Azerbaijan/ Kazakhstan)	006-ADB/CW-2018	36.74	10.07.2018	01.10.2018 31.08.2021
Lot 7 "Ant Inaat Maden Sanayi A.S." (Turkey) Dossor Bypass, Phase II	007-ADB/CW-2017	15.392	16.08.2017	20.12.2017 29.09.2021
Total project length:		140.14		

25. There is an organization chart of interaction between the project structures in the Picture 3 below.



Picture 3. Organization chart of coordination of the project interaction

2.3 Project Activities during the Current Reporting Period

26. **Lot 4.** The Contractor «Shanghai Construction Group Co.» had been in serious progress delay, which led to a failure to reach 45% of work by February 6, 2020 for the following reasons:

- Weak organizational structure. Lack of highly qualified, experienced specialists in the field of road construction;
- Permission documents (technical specification, approval from Kazakhstan Railway Company, etc.) for the overpass reconstruction and a temporary railway crossing construction have not been received on time;
- The relocation of existing communication lines of gas pipelines (4 nos.), power lines (5 nos.) and service lines (12 nos.) has been started with delay;
- Weak supply of road construction materials due to insufficient funding by the Contractor at the beginning of 2020.
- The COVID-19 coronavirus pandemic and the imposed quarantine caused some damage to the work progress and mobilization of some specialists and equipment.

27. For Lot 4 the Engineer issued a “Notice to Commence Works” on 08.01.2019. During the reporting period the following work activities have been carried out:

- Binder Course construction PK 0+00 - PK 50+00, PK 95+00 - PK 150+00, PK 250+00 - PK 397+00, PK 0+00 - PK 50+66 of bypass road
- Upper Base Course construction PK 0+00 - PK 50+00, PK 90+00 - PK 155+00, PK 250+00 - PK 397+00, PK 0+00 - PK 50+66 of bypass road
- Lower Base Course construction PK 0+00 - PK 50+00, PK 90+00 - PK 155+00, PK 200+00 - PK 398+00
- Additional Base Course construction PK 0+00 - PK 50+00, PK 90+00 - PK 155+00, PK 200+00 - PK 397+00, PK 0+00 - PK 50+66 of bypass road
- Roadbed construction PK 0+00 - PK 65+00, PK 84+00 - PK 398+00.
- 19 new pipe culverts have been constructed.
- Beams installation on Sagiz bridge and pile driving on Nogaity bridge have been completed.

28. The construction work progress on Lot 4 is presented in the Table 4 below.

Table 4. The construction work progress status

as of 31.12.2020

Contractor's name and site	Work activity	Unit	Totally by the Contract	Completed for the II semi-annual 2019	Completed for the I semi-annual 2020	Completed for the II semi-annual 2020	% progress	Balance
Shanghai Construction Group Co.Ltd (section km 330-370) Lot 4 (Sagiz village)	Cost	KZT	8 828 754 266,7	1 822 959 385.6	1 269 866 777.07	2 319 935 476.63	61%	3 415 992 627.4
	Binder Coarse	km	44.8	-	11	24	58%	9.8
	Upper Base Coarse	km	41.8	3.3	11.7	20	79%	6.8
	Lower Base Coarse	km	36.8	9.5	8.6	11.9	74%	6.8
	Sub-base	km	36.8	14.8	6.6	8.6	76%	6.8

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	Roadbed	thou m ³	1,201	520.4	390	239.6	96%	0.05
	Culvert	no.	20	8	7	4	95%	1
Total work progress		%	100				45.2	54.8%

29. During the reporting period mobilized personnel on Lot 4 site is given in the Table 5 below.

Table 5. Mobilized personnel on Lot 4 site

	July	August	September	October	November	December
Total number of employees	221	234	237	238	184	66
Number of Contractor's employees	175	188	191	192	143	42
Number of men / women	207/14	220/14	223/14	224/14	171/13	59/7
Foreign personnel	18	18	21	21	21	21
Local personnel (from project realization area)	72	83	83	84	82	24
From other regions of RK	131	133	133	133	81	21

30. For Lot 5 the Engineer issued a "Notice to Commence Works" on 08.01.2019. As this Contract has been under management of same Contractor on Lot 4, preparation works progress has been similar to the case of Lot-4 during initial months. However, differently from Lot-4, Contractor engaged a Subcontractor of local base in January 2019. Majority of preparation works including site mobilization has been entrusted to this Subcontractor. Comparing to the main Contractor, this Subcontractor has been able to mobilize construction resources faster by utilizing the advantage of local base in the region. The Subcontractor has performed work activities with higher productivity while the main Contractor has delivered almost no product on the site. By this way, the Contractor Lot 5 with engagement of constructional resources provided by the Subcontractor has been able to achieve considerable progress.

31. However, in June 2019, the progress has suddenly dropped seriously. In July, it shows improved progress. But, from August 2019 till to date the progress dropped drastically and it is very slow. The Contractor achieved 0% physical progress during December 2020 against the target of 0.08%. Cumulative progress of works is 44.71% achieved Vs 63.32% planned (as per work program) with 18.61% lag in 73.1% of elapsed time.

32. Pursuant to Sub-Clauses 2.4 [Employer's Financial Arrangement] of the Particular Conditions of Contract (hereinafter "PCC"), the Contractor's progress should reach the amount of 45% of the Accepted Contract Price during the first 440 calendar days following the commencement of the Works which becomes expiry of which falls on 22.03.2020 has been adjusted by Contract Addendum-dated 07.05 2020 to 01.08.2020.

33. During the reporting period the following work activities and quantities have been carried out: topsoil removal at bypass road from km 370 to 418,2 (48,2 km) and filling CSSM for bypass road from km 370 to 418,2 (48,2 km). At the main road have been done roadbed construction for 14 km and existing pavement removal for 39 km (from PK0+00 to PK390+00).

34. The Physical work progress of the Contractor is evaluated to be 30.1% only as of 31.07.2020. So, the Contractor has failed to achieve such 45% progress by 01.08.2020. Therefore, pursuant to Sub-Clauses 8.7 and 14.15(b) of the PCC, a penalty equivalent to 0.01% of the Accepted Contract Price per day shall be paid with effect from 02.08.2020 by the Contractor until such time when the Contractor completes part of the Works in the amount of 45% of the Accepted Contract Price. After receiving the Employer's letter of the "Employer's claim" about a delay in Works in accordance with sub-clause 2.5 of GCC by his letter ref.no.26-26/1442-И dated 05.08.2020, the Engineer noticed the "Engineer's Determination" in accordance with 3.5 of GCC, of which the Employer is entitled to impose delay damages to the Contractor pursuant to the Contract Addendum dated 07.05.2020 by the Engineer's letter ref. no. ATR/5-2097 dated 17.08.2020.
35. Ak Zhol as the subcontractor had sharp deficiency in cash operation due to various other contracts awarded in recent elsewhere within Kazakhstan. And head office support for the Lot-5 site dropped sharply and progress affected adversely and seriously:
- (i) construction resources could not be mobilized on time,
 - (ii) borrow pit material extraction permit was delayed to obtained,
 - (iii) railway dead-end material unloading facility couldn't be completed on time,
 - (iv) road pavement structural stone materials couldn't be delivered to site timely,
 - (v) experienced engineers, technicians and various specialists couldn't be employed on time.
36. As of and until 31.12.2020, signals of improvement were not shown by the Contractor for the Engineer to foresee any promising outcome to be achieved by the Contractor. In spite of subcontractor's difficult situation, SCG as the main prime contractor, did not take positive action to lead and make good the difficult situation.
37. In 2019 base camp construction of Lot 5 has been completed. As of 31.12.2020, there are necessary and sufficient places in base camp to accommodate workers. The Contractor has made effort to provide comfortable condition in the Engineer's office and accommodations.

**Table 6. The construction work progress status on Lot 5
for the reporting period**

as of 31.12.2020

Contractor's name and site	Work activity	Unit	Totally by the Contract	Completed for the II semi-annual 2019	Completed for the I semi-annual 2020	Completed for the II semi-annual 2020	% progress	Balance
Shanghai Construction Group Co.Ltd (section km 370-418) Lot 5	Cost	KZT	8 446 782 180.62	1 289 270 540.26	626 643 647.18	1 857 375 737.17	19.8	3 047 862 604.57
	Binder Coarse	km	48.2	0	0	29.3	61	18.9
	Upper Base Coarse	km	48.2	0	0	32.2	66.8	16
	Lower Base Coarse	km	48.2	4.7	4.4	23.5	48.7	15.4
	Sub-base	km	48.2	11.2	5.6	26	53.9	5.4
	Roadbed	thou m ³	1 132	745.5	314.4	72	6.4	0
	Culvert	no.	20	1	3	13	85	3
Total work progress		%	100	-	-	44.7		55.3%

38. During the reporting period mobilized personnel on Lot 5 site is given in the Table 7 below.

Table 7. Mobilized personnel on Lot 5 site

	July	August	September	October	November	December
Total number of employees	125	112	110	140	91	30
Number of Contractor's employees	81	63	22	41	29	16
Number of men / women	113/12	104/8	102/8	140/11	91/9	23/7
Foreign personnel	0	0	0	0	0	0
Local personnel (from project realization area)	6	6	13	13	13	7
From other regions of RK	38	43	56	75	87	23

39. **Lot 6.** All Base Camp facilities built so far in Zhamansor have been fully occupied by workers and engineers of the Contractor and the Supervision Consultant Engineer and all facilities have been operational in full scale since 01.03.2019. The laboratory is in the prefab building located on the base camp. Its area is 120 m². Certificate on evaluation of measurement state in the laboratory No.TL-ESM 19/05 dated 15.05.2019. All laboratory equipment is with factory calibration and new. It operates since 15.05.2019. Staffed for 100%.
40. The Engineer has issued the «Notice to Commence Works» for Lot 6 on 01.10.2018. During the reporting period the Contractor carried out the following work activities and quantities: RMD Makat. Executed activities related to the structural part such as top soil removal, fencing, foundation. Walling works are on progress on administrative building, checkpoint, material and equipment depot, boiler house. Erection of wall blocks has been started in sand depot.
41. RMD Atyrau. The foundation of the partition of administrative building has been completed, vertical waterproofing of the internal partitions, backfilling of the sinuses and covering the bottom of floor with soil are ongoing. Installation of foundation blocks of the boiler house and preparation of trenches for the foundation of the heated parking are ongoing. Walling works are on progress on administrative building and boiler house. Progress on structure: 13 existing pipe culverts have been removed, 11 new pipe culverts have been constructed and 2 new box culverts (included 1 cattle pass) have been constructed
42. The existing beams and collars were dismantled on Sagiz bridge at PK 100 + 38.57. Rearing intermediate support body was done by a monolith. Precast concrete collar blocks were installed and the middle part of collar and abutment stone were concreted. Rubber bearings were installed on abutment stones. The assembly of precast concrete middle beams of the superstructure and assembly of retaining walls of abutment piers No.1 and No.5 by a monolith concrete were completed. In-situ sections between beams are under preparation.

Table 8. The construction work progress status on Lot 6 for 2020

Contractor's name and site	Work activity	Unit	Totally by the Contract	Completed for the II semi-annual 2019	Completed for the I semi-annual 2020	Completed for the II semi-annual 2020	% progress	Balance
Akkord / Akzhol kurylys Lot 6	Cost	KZT	6 669 640 276.85	1 680 597 696.63	1 069 391 564.08	604 421 054.00	50.29%	3 315 229 962.14
	Binder Coarse	km	36.7	5.0	19.0	12.7	100%	0
	Upper Base Coarse	km	36.7	5.1	19.0	12.6	100%	0
	Lower Base Coarse	km	36.7	15.0	9.4	12.3	100%	0
	Sub-base	km	36.7	15.8	15.0	5.9	100%	0
	Roadbed	thou m ³	854	436.4	300.5	49.547	91.61%	0
	Culvert	no.	13	8	2	3	100%	0
Total work progress		%	100	-	-	55.89%		44.11%

43. Involved personnel on Lot 6 site is given in the Table 9 below.

Table 9. Involved personnel on Lot 6 site

	October	November	December
Total number of employees	94	111	60
Number of Contractor's employees	87	81	43
Number of men / women	87/7	102/9	53/7
Foreign personnel	0	0	0
Local personnel (from project realization area)	-	-	-
From other regions of RK	-	-	-

44. Lot 7 site: Phase I work

Length Handed Over to Contractor: 15.392 Km (Km 487~ Km 504)

Table 10. The construction work progress status on Lot 7 for 2020 Phase I

№	Description	Total	Completed	Progress %	Remarks
		(KM / NO)	(KM / NO.)		
1	Earth Work	15,392	15,392	100%	

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2	Embankment	15,392	15,392	100%	
3	Sub Base	15,392	15,392	100%	
4	Crushed Stone Base	15,392	15,392	100%	
5	Asphalt Base Course	15,392	15,392	100%	
6	Road base pavement SMA	15,392	15,392	100%	
7	Precast concrete gutters	6,484	6,484	100%	
8	Pavement Marking	15,392	15,392	100%	
9	Traffic Road Sign	62	62	100%	
10	Metal Guardrail	1,432	1,432	100%	
11	Chain link fence	1,608	1,608	100%	
12	Cattle passes	2	2	100%	
13	Pipe Culverts	12	12	100%	

Progress on structures Phase I:

- ♦ Culvert construction - completed 100%.
- ♦ Cattle crossing - completed 100%.
- ♦ Bus shelter 2 units - completed 100%.
- ♦ Sanitary unit 1 unit – completed 100 %.
- ♦ Ancillary work
 - a. Barrier fencing, 1432 rm - completed 100%
 - b. Fencing of cattle crossing, 1608 rm – completed 100%
 - c. Drainage trays, 6484 rm – completed 100%
 - d. Lighting of bus stops – completed 100%

45. Phase II – Dossor Bypass Way.

Total length is 5.52 km. The Contractor has received an official access to enter to the site on 01.12.2020. From December 1 to 31, 2020 activities have been carried out as follows: Earthworks – 42.39 m³. Preliminary approval of IEE and EMP was received from the PMC in October 2020. The IEE is being finalised after the ADB's latest revision and disclosed at ADB website and website of COR¹.

Table 11. The construction work progress status on Lot 7 for 2020 Phase II

Contractor's name and site	Work activity	Unit	Totally by the Contract	Completed for the II semi-annual 2020	% progress	Balance
ANT Insaat Maden Sanayi Lot 7	Cost	KZT	2 378 137 587.42	567 289 106.76	23.8%	1 810 848 480.66
	Binder Coarse	km	5.516	0	0	5.516

¹ <https://www.adb.org/projects/documents/kaz-48424-002-iee>,
<https://www.gov.kz/memleket/entities/roads/documents/details/141191?lang=ru>

	Upper Base Coarse	km	5.516	0	0	5.516
	Lower Base Coarse	km	5.516	0	0	5.516
	Sub-base	km	5.516	0	0	5.516
	Roadbed	thou m ³	316,766	42.39	13.4	274,376
	Culvert	no.	9	0	0	9
Total work progress		%	100%		6.8%	93,2%

2.4 Description of Any Design Changes

46. Lot 4: Variation No.1 Change of Road Structures. The main purpose of this Variation No.1 is to obtain approval of the «Committee for Roads of the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan» and Joint Stock Company «National Company KazAutoZhol» to change Material for Additional Base Layer from <Soil consolidated by Cement with stabilizing Additive> to <Sand Gravel Mix>. Agreement for change in material of additional base layer was confirmed by the Designer in his letter no.60 dated 18.02.2019. This design change did not cause the change of original contract cost.
47. The Change necessary is determined as follows as an official **Variation** related to pavement structure (hereinafter "Variation No.1") in accordance with item (b) of Sub-Clause 13.1 [Right to Vary] of the General Conditions of Contract.
48. [Sub-Clause 13.1 (b) Change to quality]
- Additional Base Layer Material change from <Soil consolidated by Cement with Stabilizing Additive> to <Sand Gravel Mix>
 - There is 'No Change' in Cost and Time of the Contract in consequence of this design change made according to the technical and quality characteristics stipulated in the design and estimate documents based on Tender Clarification of Question No.7.
49. Lot 5: Variation No.1 Change of Road Structures. The main purpose of this Variation No.1 is to obtain approval of the «Committee for Roads of the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan» and Joint Stock Company «National Company KazAutoZhol» to change Material for Additional Base Layer from <Soil consolidated by Cement with stabilizing Additive> to <Sand Gravel Mix>. Agreement for change in material of additional base layer was confirmed by the Designer in his letter no.60 dated 18.02.2019. Based on Designer's agreement, an alternative material is determined as follows: Material is changed from <Soil consolidated by Cement with Stabilizing Additive> to <Sand Gravel Mix>. Layer thickness remains without change.
50. Lot 7 includes 3 variations. Variation No.1. Road pavement change. The main purpose of the Variation No.1 is to obtain approval of the «Committee for Roads of the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan» and Joint Stock Company «National Company KazAutoZhol» in relation to change of pavement layer 'Base Course of Black Crushed Stone' of original design to 'Hot High Porous Asphalt Concrete of Brand 2'. Based on the Designer's agreement and the Contractor's undertakings aforementioned, the Contractor's proposal to replace 'Base Course of Black Crushed Stone' with 'Hot High Porous Asphalt Concrete

of Brand 2' is justifiable and acceptable for application to the Contract Lot-7 of the Project without change of contract cost.

51. Variation No.2 regarding the change of the material of the earth bed slope strengthening in the places of the culvert and cattle runway construction from the "B20 monolithic concrete" to the "reinforced concrete slabs PDN 50.50.10". The main purpose of the Variation No.2 is to obtain approval of the «Committee for Roads of the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan» and Joint Stock Company «National Company KazAutoZhol».

Background:

- a. The Contractor initiated to change slope strengthening material by his letter no.ANT-OR-0387-2018 dated 05.12.2018.
 - b. The Contractor submitted letter no.ANT-CS-063-2019 dated 15.05.2019 to the Designer «PC ARNAI»
 - c. The Contractor sent a letter to the Designer of the project "PC ARNAI" (out. № ANT-CS-095-2019 of 14.06.2019) with drawings and supporting documents of the replaced material. «PC ARNAI» approved officially by letter No. 19/191 of 22.07.2019.
 - d. The Contractor's proposal is accepted as an official Variation in Slope strengthening material change (hereinafter "Variation No.2") in accordance with item (b) of Sub-Clause 13.1 [Right to Vary] of the General Conditions of Contract with neither extra cost nor additional time to the Contract.
52. Lot 7 Variation No.3 with change of original contract cost. "Dossor Bypass Way» can be contributed to improving the transport between the Settlements and will reduce the risk of traffic accidents in the village of Dossor as the traffic flow will bypass the said Settlements. The main purpose is to obtain approval of the «Committee for Roads of the Ministry of Industry and Infrastructural Development of the Republic of Kazakhstan» and Joint Stock Company «National Company KazAutoZhol» to construct an additional Work of «Dossor Bypass Way» for total length of 5.52 km with Asphalt Pavement with Road Furniture, Makings and Street Lightings including Culverts, Cattle Passes.

53. Background of Construction for «Dossor Bypass Road»

- ♦ Pursuant to Presidential Protocol No. 19-01-7.22, dated 04.June 2019, the Implementation Instruction of the President Republic of Kazakhstan No.9 and No.1.9 of Attachment stated, «To consider the issue of allocating funds for the Development of Design Estimates and further Reconstruction of highways of Republican Significance : Atyrau-Uralsk, Kulsary-Mukur, Bypass roads of the city of Kulsary, Zhylyoi District and the Village of Dossor, Makat District».
- ♦ Feasibility study was developed and received a positive conclusion of State Expertise. The procedure of Variation performed by the existing Contractor of «Ant Insaat Maden Sanayi A.S.» in order to save time for its realization by the letter ref. no.: 05/13-1307-u, dated 06.06.2019.
- ♦ The Engineer, «Dongsung Engineering Co. Ltd. with ZS Engineering LLP» instructed the Contractor, «Ant Insaat Maden Sanayi A.S.» to propose the construction of «Dossor Bypass Way» under the procedure of Variation pursuant to Clause 13 of General Conditions of Contract (GCC) by the letter ref. no.: DSE-AM-2-1189, dated 20.06.2019.
- ♦ The Contractor has received Positive Conclusion of State Expertise for the Design-Cost Estimation documents for construction of «Dossor Bypass Way» by the Designer «EngineerProjectStroy» LLP, letter No. 305, dated 06.04.2020.

- ♦ The Engineer issues Re-Evaluation the Bill of Quantity [B.O.Q] for the construction of «Dossor Bypass Way» as per the Project Management Consultant NC «KazAutoZhol» JSC advises by his letter ref. no.: 08-2/08-2-2718, dated 26.08.2020 and requests for mutual agreement by the Engineer's letter ref. no.: ATR/CoR-2146, dated 07.09.2020.
- ♦ The Engineer is respected the Construction Period of **10 months** which is Determined by the State Expertise and the Contractor entitle to be extended the Date of Completion of the Contract accordingly for the «Phase II» ONLY.
- ♦ The Engineer prepared the IEE and submitted it to the PMC for approval. The Contractor prepared the EMP for the Phase II and submitted it to the PMC and Engineer for approval.

Table 12. Variation Value and Total Contract Amount of Lot 7

	Original Contract (KZT)	Estimated Variation (KZT)	New Contract (KZT)
BOQ Total	2 836 781 478.73	2 123 337 131.63	4 960 118 610.36
VAT (12%)	340 413 777.45	254 800 455.80	595 214 233.25
Sub-total with VAT	3 177 195 256.18	2 378 137 587.43	5 555 332 843.61
Provisional Sum	-	-	-
Total Contract Amount including VAT	3 177 195 256.18 A	2 378 137 587.43 B	5 554 172 900.90 C
% Increase including VAT		74.8% B / A	174.8% C / A

2.5 Description of Any Changes in the Approved Construction Methods

During the reporting period, changes in construction methods have not been discussed.

3. THE ENVIRONMENTAL ACTIVITIES (ENVIRONMENTAL SAFEGUARDS) PROGRESS

3.1 General Description of Environmental Activities

54. There were no changes in the Contractor's organization structure of Lot 4, Lot 5, Lot 6 and Lot 7 during the reporting period. On Lot 5 and Lot 6, it was previously informed that the position of environmental specialist would be covered by one specialist. From 01.12.2020 the Contractor informed an extension of work of environmental specialist Zhantokova Gulzhanat by including Lot 7. Also since September 2020, environmental specialist Zhantokova Gulzhanat has been working remotely due to the pandemic in the region. It is due to the quarantine imposed in the region as required by the Decree No. 57 of the Chief State Sanitary Doctor of the Republic of Kazakhstan dated October 23, 2020. At least 50% of employees remain on a remote work format (with a staff more than 30 employees)². The position of environmental specialist is included in the list of personnel transferred to the remote work format.

55. In the region relevant decrees to strengthen quarantine and restrict activities in the work places have been introduced:

- I. Decree No.57 of the Chief State Sanitary Doctor of Atyrau region dated July 17, 2020 On further strengthening of strict quarantine measures to reduce the spread of coronavirus infection (COVID-2019) in the territory of Atyrau region³;
- II. Decree No.64-PGVR of the Chief State Sanitary Doctor of Atyrau region dated August 29, 2020 On further measures to prevent the disease of coronavirus infection among the population of Atyrau region⁴;
- III. Decree No.68 of the Chief State Sanitary Doctor of Atyrau region dated October 15, 2020 "On measures to prevent the spread of coronavirus infection among the population of Atyrau region"⁵;
- IV. As Atyrau region entered to the "red zone" of coronavirus, the Chief State Sanitary Doctor of Atyrau region signed Decree No.71 dated December 19, 2020 "On strengthening quarantine measures to prevent coronavirus infection among the population of Atyrau region"⁶.

56. Lot 6 was recommended to update the EMP as the RMD location and construction issue has been cleared by the Employer. The Contractor Lot 6 submitted EMP for RMD Makat and RMD Atyrau for the Engineer's review on 15.10.2020. The Engineer reviewed and approved the submitted EMP on 23.10.2020. Lot 7 EMP has been submitted on 30.10.2020 for the Engineer's review and approval. The Engineer made recommendations to eliminate non-conformances between the EMP and its attachment plans for safeguard activities. The EMP revised based on the Engineer's comments has been submitted for approval on 15.12.2020. The Engineer approved the said variant of EMP.

57. Responsible persons for environmental safeguards are shown in the Table 13 below.

² reference to the official site <https://inbusiness.kz/ru/last/v-aktyubinskoj-oblasti-prodlili-strogij-karantin>

³ https://online.zakon.kz/Document/?doc_id=34447819

⁴ https://online.zakon.kz/Document/?doc_id=38561547

⁵ <https://www.gov.kz/memleket/entities/atyrau/press/news/details/109846?lang=ru>

⁶ <https://uchet.kz/news/ogranicheniya-po-vremeni-i-rezhimu-raboty-vvodyat-v-atyrauskoy-oblasti-s-21-dekabrya-2020-goda/>

Table 13. Environmental specialists of Contractors on the project site

Company	Position	Name	Job	Period
"Shanghai Construction Group Co." Lot 4	environmental specialist	Satvaldinov Azamat	Fulfilment of obligations under the contract's ToR	Involvement permanently from September 2019
"Shanghai Construction Group Co." Lot 5	environmental specialist	Zhantokova Gulzhanat	Fulfilment of obligations under the contract's ToR	Covers this position
JV "Akkord / Ak zhol kurylys", Lot 6	environmental specialist	Zhantokova Gulzhanat	Fulfilment of obligations under the contract's ToR	Involvement permanently from 2019
"Ant Insaat Maden Sanayi A.S." JSC, Lot 7 + Dossor bypass way				

58. According to the contractual obligations, the environmental specialists on the sites have ensured as far as possible the compliance with requirements of environmental aspects of the contract document, in particular the requirements of the General Conditions of Contract, such as 4.7. Setting out, 4.8. Safety Procedures, 4.13. Right of way and Facilities, 4.18. Protection of the Environment, 6.7. Health and Safety.
59. Due to the reality of the risks of COVID 19 spread, adjustments were made to the EMPs of all sites to ensure the implementation of COVID 9 pandemic prevention measures in the following site-specific plans: "Base Camp Management Plan", "Health and Safety Plan", "Emergency Response Plan". The Contractors included appropriate measures to the HSPs from the RK Chief Sanitary Doctor's instructions to reduce the number of employees by transferring at least 50% of employees to remote work format. The environmental specialist of Lot 5, Lot 6 and Lot 7 was transferred to work remotely. The environmental specialist of Lot 4 was permanently on the site.
60. Facilities ensuring protective and preventive measures were arranged on the sites and respective coordinators were appointed who responsible for providing resources for personal protection (masks, gloves, disinfectants, soap and detergent), preventive and disinfection measures in the construction camps and construction sites. The Contractors provided the workers with information about preventive measures and keeping a social distance. Boards and posters in languages that are applicable on the sites are hung out in accommodations and workplaces.
61. The PMC has implemented daily monitoring of statistics on provision of Contractors with personal protective equipment (masks, gloves, disinfectants and etc.), preventive measures and recorded facts of diseases. In order to collect and analyse information from the sites, a template of daily and weekly report of the HSP implementation was developed with the CSC and implemented. Safety specialists and medical staff on the sites were involved in this monitoring. All these measures enabled the Contractors to prevent the spread of pandemic COVID 19 on the sites. During the reporting period, no cases of COVID 19 were registered among the Contractors' staff.

62. Agreements concluded earlier for IEM:

- LOT 4: - “EcoNormative” LLP agreement No.3 dated February 19, 2020 (water, air, soil) and “National center of expertise” (noise, vibration);
- LOT 5 and 6 - “EcoNormative” LLP agreement No.211/3/AZhK dated July 4, 2019 and “National center of expertise” agreement for noise and vibration No.561 dated 22.05.2020;

have the status of valid agreements, but there were changes of deadlines of instrumental measurements due to the quarantine measures imposed in the region. Lot 7 Contractor is looking for a subcontractor for IEM.

63. During the reporting period, the following environmental activities have been carried out:

Table 14. List of compliance activities with the EMP

Work item	Lot 4	Lot 5	Lot 6
Contractor's industrial environmental monitoring (IEM)	<p>There are quarterly measurements according to the EMP. Measurements were carried out in the 3 quarter on 11.09.2020, in the 4 quarter on 6.12.2020. IEM laboratory reports have been submitted for the 3 and 4 quarters.</p> <p>The environmental specialist submitted to the Engineer the report which includes test reports of instrumental measurements for the 3 and 4 quarters.</p>	<p>Instrumental measurements of pollution level were carried out by an independent laboratory. 13.09.2020 - radiation level measurements, 08.12.2020, 17.09.2020 - noise and vibration level, also air pollution level measurements. Report for the 3 and 4 quarters with test reports of instrumental measurements have been submitted. Laboratory report not submitted.</p>	<p>Instrumental measurements of pollution level were carried out by an independent laboratory. 13-14.09.2020 and 24.09.2020 - radiation level measurements, 27.11.2020 - air pollution level measurements, 08.12.2020 - noise and vibration level, also air pollution level measurements. Report for the 3 and 4 quarters with test reports of instrumental measurements have been submitted.</p>
Monitoring of EMP implementation Inspection / audit	<p>Remote monitoring of documents and activities for the implementation of Waste Management Plan, activities for risk management plan related to COVID 19.</p> <p>The Engineer conducted environmental audit from December 18 to 24. Based on audit results, the Contractors' environmental specialists were provided with feedbacks to eliminate the minor violations and non-conformances identified. Particularly, Lot 5 and Lot 6 were required to submit IEM reports of independent laboratory to the Engineer.</p>		

Consultations for environmental specialists	Engineer's consultations for the Contractor's environmental specialists: preparation of short monthly reports, submission of information on preventing the spread of COVID 19 (daily and weekly information on the availability of disinfection and PPE resources), solid waste removal and disposal
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64. Due to the issued Decrees (item 54 of this report), which stipulated activity limitations and the necessity of remote working, the Contractors could not ensure continuous monitoring of compliance with their companies' environmental policies and implementation of activities stipulated in the EMP regarding HIV/AIDS and STD/STI awareness activities.
65. When the quarantine measures were reduced on the sites, instrumental measurements of the environment have been carried out in accordance with the plans of industrial environmental monitoring activities. The measurement periods are indicated in the Table 14 above. Regarding Lot 7, as the site on equipment and personnel mobilization stage, instrumental measurements are planned for the 1 quarter of 2021.
66. During the reporting period, all sites have been inspected by the CSC. Environmental audit for elimination of previously issued non-compliances was conducted. Observations of the construction process at all three sites related to environmental protection and EMP implementation on the sites were also carried out. The EMP reports were reviewed. For Lot 4, Lot 5 and Lot 6 the Contractors provided the IEM reports for the 3 and 4 quarters. No IEM for Dossor Bypass was conducted on Lot 7, it is scheduled for the 1 quarter of 2021.

3.2. Site audit (site inspection)

67. During the reporting period the Engineer carried out site inspections in order to check the implementation of measures in EMP and HSP in period from 11.09.2020 to 21.09.2020 and the further inspection was in period from 18.12.2020 to 23.12.2020. Results of inspection are shown in the Table 15 below.

Table 15. Information and conclusion summary of site inspections

Indicator code	Title and main moments	Lot 4 11.09.2020 18.12.2020	Lot 5 21.09.2020 19.12.2020	Lot 6 12.09.2020 21.12.2020	Lot 7 23.12.2020
D1	EMP and environmental attachment plans	In progress on the site. No corrections and changes except HSP, Emergence Response Plan and Base camp Management Plan		EMP was submitted and agreed with CSC on 15.12.2020	
		Industrial environmental monitoring was carried out by an independent laboratory, instrumental measurements have been conducted in the 3 quarter on 11.09.2020 and 4 quarter on 6.11.2020.	Industrial environmental monitoring was carried out by an independent laboratory, instrumental measurements have been conducted on 13.09.2020, 8.12.2020 and 17.09.2020.	Industrial environmental monitoring was carried out by an independent laboratory, instrumental measurements have been conducted on 13-14.09.2020, 24.09.2020, 27.11.2020 and 08.12.2020.	Planned for the 1 quarter of 2021: baseline and following measurements will be conducted during construction activities.
D2	Availability of Health and Safety Plan (HSP), including of corrective actions: measures for non-proliferation and prevention of Corona virus pandemic COVID-19.	A medical worker is assigned as responsible for the prevention of COVID 19. Disease prevention posters are hung on in the accommodations. There are warning pictograms in the base camps. Hand treatment places are arranged and there are schedules for cleaning and treatment of the office, canteens and accommodations in the base camps.			
D3	Availability of Emergency plans and including of corrective actions	There is the plan on the site. Instructions were developed fully. Recommendations issued earlier by the CSC have been followed by the Contractor. Particularly regarding effective communication with the local health care department, hanging out on the visible places the contact numbers to call in case of emergency situation.			
I1	Readiness and availability of resources of medical facility	The medical facility is equipped fully with necessary resources. The unlimited supply of PPE (medical masks, gloves, antiseptics) and disinfectants is available and maintained. There is 1 medical worker in the staff. Medical worker knows	There is a medical facility and medical worker. The provision with medicines is poor. There is not unlimited supply of PPE (medical masks, gloves, antiseptics) and disinfectants. There is no box for the isolation of patients before sending them to hospital.	The medical facility is equipped fully with necessary resources. The unlimited supply of PPE (medical masks, gloves, antiseptics) and disinfectants is available and maintained. There are 2 medical workers in the staff. Medical worker	On mobilization stage

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		about the algorithm of actions in case of emergency situation, there are registration books of temperature measurements, the cleaning schedule of rooms in the camp with disinfectants is being checked. There are a box and special isolation kits to isolate viral patients before sending them to hospital. The canteen has special equipment for heat treatment of canteen tools.		knows about the algorithm of actions in case of emergency situation, there are registration books of temperature measurements, the cleaning schedule of rooms in the camp with disinfectants is being checked.	
I2	Sanitary and hygienic conditions of the base camps, canteens, accommodations, common areas and sanitary facilities, provision with soap and detergents	The dormitories are being cleaned in due course (2 times a day with disinfectants). The instructions given earlier to provide the necessary number of technical personnel are not followed.	There is an sufficient supply of disinfectants in the dormitories. Technical staff follow the frequency of cleaning facilities and treatment of tables and furniture. There are remarks for the canteen where the order of cleaning and treatment of facilities and instruments / tools is not followed.	The dormitories are being cleaned in due course (2 times a day with disinfectants). The instructions given earlier to provide the necessary number of technical personnel are not followed.	On mobilization stage. Employees have a meal in the café which complies with the sanitary and hygienic regulations.
P1	Medical worker's knowledge about algorithm of actions when detecting symptoms of coronavirus COVID-19	Satisfactory	Moderately satisfactory	Satisfactory	Satisfactory
P3	Recommendations, instructions, remarks for non-conformances	<ul style="list-style-type: none"> To conclude an agreement for solid waste and liquid waste removal and disposal; 	<ul style="list-style-type: none"> Corrective Action Plan dated 26.03.2020 to be fully implemented and to submit a report; 	<ul style="list-style-type: none"> To eliminate local pollution within the asphalt plant territory; Temporary storage of industrial waste to be 	<ul style="list-style-type: none"> To inform the CSC if baseline measurement will be conduct to observe the

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		<ul style="list-style-type: none"> To provide FLM storage with a fire-fighting panel, containers for oiled soil, means of containment (gloves, shovels) and appropriate safety signs and contact numbers in case of emergency situation 	<ul style="list-style-type: none"> To mobilize an environmental specialist on the site who will be permanently on the site; To concrete the place under FLM storage tank; To ensure compliance with the sanitary and hygienic regulations in all facilities of the construction camp; To control SW segregation, clean up SW along the road 	marked with signs and fencing.	measurement and sampling process; <ul style="list-style-type: none"> To mobilize an environmental specialist on the site who will be permanently on the site as Phase II of construction is close to Dossor village and there is a risk that the population may complain about the environmental non-compliance
		General recommendations for all Lots: - to keep submission date of IEM reports, environmental specialist's reports (monthly) - to provide photos of measurement and sampling activities with date in the laboratory reports; - to control production place of construction camp: local pollution, temporary storage of waste: tyres, rags, used oils and other waste.			
EE1	Negative manifestations by the local population	None			

D – documents, plans and etc., I – infrastructure on the site, P – process, actions, EE – external environment




3.3. Tracking of issues (Based on Non-conformance Notices)

68. During audits conducted in the first half of 2020 the CSC defined remarks and non-conformances as follows:

Table 16. Information on tracking the implementation of recommendations made for remarks elimination

Site Date of visit	Non-conformance and instruction for elimination	Elimination status as of December 2020
Lot 4 10.06.2020	1. local spills of FLM on the construction camp; 2. bad condition of construction camp and road	 <p>Local spills have been eliminated, FLM operators' work are being controlled, training about spills and actions to be taken by personnel in case of FLM spills has been arranged.</p> 
	<u>Recommendations:</u> to arrange environmental lecture under the theme prevention of pollution by FLM; to clean the construction camp territory and to clean along the road from SW	<p>Environmental education and information about environmental protection is included in staff trainings by the Safety and Road Safety Engineers. The training is conducted jointly with the environmental specialist.</p> <p>The construction camp is properly maintained and activities are carried out to clean the territory and the project road.</p>

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<p>Lot 5 09.06.2020</p>	<p>3. schedule for dust control in the camp is not followed;</p> <p>4. no waste segregation, insufficient number of waste containers;</p> <p>5. no control the fill level of septic tank and as its result there are facts of spillage from the septic tank;</p> <p>6. temporary storage for used oil, tyres and filters are not arranged.</p>	<p>Dust control schedule is controlled by the Safety and Road Safety Engineers;</p> <p>Additional number of containers are installed and their fullness is being controlled;</p> <p>Fill level of septic tank is controlled by Camp Administrator based on estimates and daily control;</p> <p>Temporary storage for industrial waste is not arranged;</p>   <p>Making ditches for septic</p>  <p>Designation Septic for liquid waste</p>
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	<p>Recommendations:</p> <ul style="list-style-type: none"> - to eliminate waste water filling from the septic tank according to the SSEMP, to clean the contaminated area; - to control the fill level of the septic tank and to arrange timely removal of waste water; - to install additional number of containers to ensure SW segregation. 	
<p>Lot 6 08.06.2020</p>	<p>7. no waste segregation; 8. untimely removal of waste</p>	<p>Waste segregation is being controlled and staff were explained about cleaning of the facilities and canteen; Temporary storage area of SW has been cleaned and it is in proper condition.</p>  <p>Temporary storage area of SW. Back view</p>   <p>Place for SW containers. Front view</p>

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	<p>Recommendations:</p> <ul style="list-style-type: none"> - to install a tank with volume 20-50 m3 in accordance with the EC RK and to install a fence around a pit for accumulation of rainwater in order to use it further for dust control. 	<p>During the reporting period additional volume of construction water was not necessary for the Contractor for dust control.</p>
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69. The environmental specialists on sites pay more attention to comply with the schedule for dust control on sections where intensive construction activities and to meet submission date of monthly, semi-annual and IEM reports.

70. According to the registration book of complaints and appeals on Lot 4, Lot 5 and Lot 6, there were no appeals or complaints about non-compliance with environmental safeguards during the reporting period. Since the beginning of the project up to December 31, 2020 there have not been complaints or appeals on the sites. There are boxes for appeals on the sites and in the local akimats. The GRM has been proceeded on Lot 7 since 15.12.2020. Boxes for complaints and appeals are installed in the construction camp. Also there is a box for appeals in the akimat building in Dossor village.

71. During the reporting period, 6 non-conformances of activities on the sites with environmental standards were recorded.

- On Lot 4: there is no agreement for SW removal and disposal (there is only one-time agreement for SW removal and disposal).
- On Lot 5: Corrective Action Plan on elimination of HSP non-conformances has not been implemented and its report has not been submitted, and also it is noted the improper implementation of Waste Management Plan, FLM area is not concreted, sanitary and hygienic regulations are not followed in the base camp.
- On Lot 6: local pollution within the asphalt plant area and temporary storage of industrial waste is not fenced and marked with appropriate signs.

72. The Table 17 below provides information on tracking environmental issues for the reporting period on an accreting basis since the beginning of the project. The Table 17.1 shows data for the previous reporting period.

Table 17. Summary on tracking environmental issues for the current period since the beginning of the project on Lot 4, Lot 5, Lot 6 and Lot 7

Total number of issues on the project	22
Number of open issues	6*
Number of closed issues	16
Solving Percentage	73%
Open issues during the reporting period	5
Closed issues during the reporting period	2**

* - 1 from the previous period: on Lot 5 a storage for production waste is not arranged and 5 for the reporting period: on Lot 4 an agreement for SW is not concluded and there is no fire-fighting panel on the FLM storage area, on Lot 5 Corrective Action Plan of HSP is not implemented, FLM area is not concreted, sanitary and hygienic regulations and requirements are not followed.

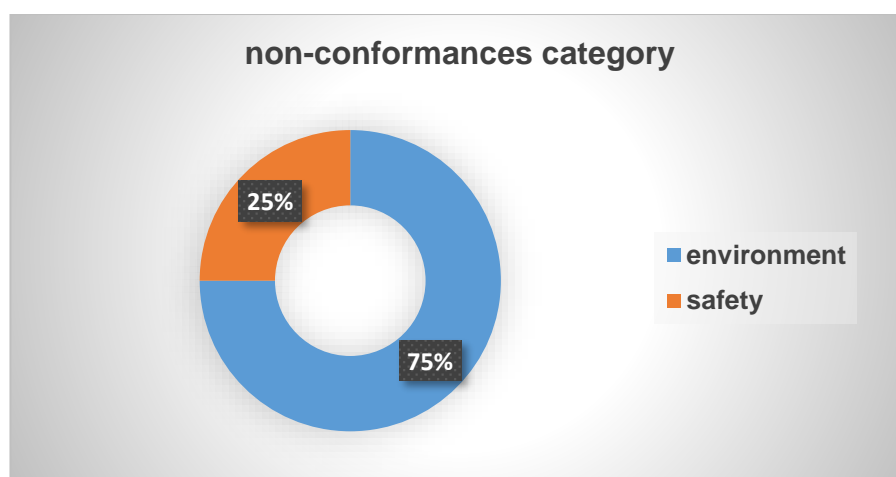
** - both issues on Lot 6 are closed.

Table 17.1 Data for the previous reporting period (1st half of 2020)

Total number of issues on the project	8
Number of open issues	1
Number of closed issues	7
Solving Percentage	88%
Open issues during the reporting period	1
Closed issues during the reporting period	7

* - on Lot 5: temporary storage for industrial waste is not arranged.

73. If divide into category non-conformances identified during the reporting period, there are two non-conformances on Lot 4, one related to the environment and another one to the safety: FLM storage. On Lot 5, two non-conformances related to health and safety issues: failure to implement the Corrective Action Plan of HSP and failure to comply with sanitary and hygienic regulations, as well as two environmental non-conformances. On Lot 6, both non-conformances related to environmental protection and both are closed.



Picture 4. Category of non-conformances on all sites for the reporting period

74. The Figure 4 shows the category of non-conformances for the reporting period. Compared to the previous period (the first half of 2020), there is a steady increase the number of non-conformances. 8 non-conformances were recorded. The largest number of non-conformances was found on Lot 5, where 4 non-conformances were identified by the audit and one non-conformance was noted by the CSC in the previous period and an appropriate instruction was issued to eliminate it. Also, activities of Corrective Action Plan regarding the safety on the site, which issued by the CSC in March 2020 have not been implemented. These facts indicate that there is no control by the Environmental Specialist and Project Manager of Lot 5. Non-conformances identified on Lot 5 site in the first half of year have not been eliminated completely and they have been ignored by the Contractor, so it results that these non-conformances transferred into the category of major non- conformances and urgent action is required by the project management and the environmental department. The combining position on three Lots is not acceptable for this site. An environmental specialist should be mobilized for Lot 5 to be permanently present on the site until all non- conformances are eliminated.

3.4 Trends (general directions)

75. During the reporting period, monitoring and audits of construction sites did not reveal any complaints from the public regarding non-compliance with environmental safeguards. Non-conformances were eliminated quickly by the Contractors on all sites, except Lot 5 site. Corrective actions were implemented immediately and written reports with photos of the results of taken actions were provided. Generally, there is a positive trend in timely response to elimination of non-conformances and violations on Lot 4 and Lot 6. However, unsatisfactory work on Lot 5 site should be noted. The combining position on three sites (Lot 5, Lot 6 and Lot 7 since 03.12.2020) and the remote work format do not allow effective implementation of EMP and it is reasonable to suppose that the necessary monitoring and control of the implementation of EMP measures will not be ensured on these sites.

3.5 Unforeseen environmental impacts or risks

76. During monitoring period there were not unforeseen environmental impacts on the construction sites. Possible risks described in the pre-project assessment process have not been realized as all construction activities have been carried out under the supervision of environmental specialists on the sites. The results of the environmental monitoring confirm this statement.

4. ENVIRONMENTAL MONITORING RESULTS

4.1. General monitoring information conducted during the current period

77. This section will include information of Lot 4, Lot 5 and Lot 6. No EMP activities have been carried out on Lot 7 due to resources are being mobilized on the site. The EMP activities are planned for March 2021.
78. The main applicable ambient air quality standards include:
- hygienic regulations of the Republic of Kazakhstan (maximum permissible concentrations (MPC) of pollutants in the ambient air of settlements according to Order No.168 of the Minister of National Economy of the Republic of Kazakhstan dated February 28, 2015);
 - Ambient air quality regulations according to the EU Directive 2008/50/EC (Ambient air quality and cleaner air for Europe);
 - WHO Recommendations on Ambient Air Quality (2005) and additional WHO recommendations and assessments related to atmospheric air pollutants.
79. Ambient air quality impacts are subject to stricter criteria than those specified in the EHS Guidelines. According to the national standards, an impact of minor intensity is an impact associated with an increase in air pollutant concentration less than 10% of the MPC, while as a general rule, the EHS Guidelines propose a level of 25% of the applicable air quality standards in order to preserve the possibility for the further sustainable development in this air basin in the future.
80. The main regulatory and methodological documents that guided the work on dosimetric control on the sites are: SETORB-2019 "Sanitary and epidemiological requirements for ensuring radiation safety". Order of the Ministry of Health of the Republic of Kazakhstan No.KR DSM-97 dated 26.06.2019.
81. The noise impact was assessed in accordance with the regulatory acts: MCN 2.04-03-2005 "Protection from noise"; Order of the Minister of National Economy of the Republic of Kazakhstan No.169 "On approval of Hygienic regulations for physical factors affecting humans" dated February 28, 2015. According to the Guideline of World Health Organization (WHO), 1999, threshold values of noise in residential areas are not applicable because there are no residential areas in the close vicinity of the project.
82. To carry out industrial environmental monitoring on the construction sites, Lot 4 concluded an agreement with "Econormative" LLP No.1 dated 19.02.2020, Lot 5 concluded an agreement with "EcoNormative" LLP, Agreement No.211/3/AZHK dated 04.07.2019 and extended for 2020. Lot 6 concluded an agreement with "Analytical Laboratory for Environmental Protection" LLP, Agreement No.17/19 dated 17.01.2019 and with "EcoNormative" LLP, Agreement No.211/3/AZHK dated 04.07.2019, also extended for 2020. All companies mentioned above have the accreditation confirming the conditions necessary to conduct the measurements in the assigned laboratory activities: conduct analytical monitoring of pollutants in the working zone, air and sources of air emissions, surface, natural water, as well as the analysis of the soil and physical factors.
83. Laboratory activities are regulated by guiding and regulatory documents in the field of environmental protection, sanitary and hygienic regulations, requirements, lists of maximum permissible concentrations, approximate safe impact levels, maximum permissible discharges and emissions of harmful substances, valid within the Republic of Kazakhstan. The industrial monitoring activities were executed in accordance with the Environmental Code of the Republic of Kazakhstan No.212-III dated January 9, 2007. The Contractors carried out the initial monitoring in accordance with the sampling and measurement points approved by the CSC Engineer.

84. On Lot 4, Lot 5 and Lot 6, instrumental measurements and laboratory investigations were carried out on the construction sites in terms of quarterly indicators. Based on the laboratory survey reports, conclusions on the environmental impact and the need for mitigation measures were made.
85. Road reconstruction (construction activities) in accordance with Sanitary Rules No.237 dated 20.03.2015 is not classified. Unclassifiable facilities according to the Environmental Code of the Republic of Kazakhstan belong to category IV. Construction camp at the time of construction season is classified as III hazard class according to sanitary rules, and category II according to the Environmental Code of RK.
86. The environmental specialist of Lot 4, who stays on the site, and the environmental specialist of Lots 5 and 6, who works remotely and sometimes visits the sites, make internal record, prepare and submit periodic reports on the results of industrial environmental control in accordance with the requirements established by the authorized bodies in the field of environmental protection based on the Environmental Code of RK (Article 133, Recording and Reporting on Industrial Environmental Control). Lot 4 submitted the laboratory report on IEM for the 3 and 4 quarters of the current year and monthly reports on the EMP implementation. The environmental specialist of Lot 5 and Lot 6 submitted the quarterly reports on the EMP measures with the attached instrumental measurement reports conducted by the laboratory, but no laboratory reports were submitted.

4.1.1 Environmental measurements on Lot 4 site

87. In the 3 quarter of 2020 the complex of industrial environmental monitoring activities included the followings:
- air monitoring within the construction camp and construction work places on the sites;
 - measurements of industrial emissions from controlled sources;
 - general chemical analysis of surface water;
 - radiation background monitoring

Noise and vibration measurement data has not been submitted for this period.



Picture 5. Location of sampling and instrumental measurements points on Lot 4.

4.1.1.1 Soil

88. A soil survey within the construction site in the scope of environmental monitoring was conducted to identify possible areas contaminated by oil products resulting from the Contractor's production and economic activities. According to the EMP report for the third and fourth quarters, as a result of the industrial monitoring, the company was constantly monitoring the prevention of oil product spills. Areas contaminated by oil products, unauthorized spills of process liquids on the ground, etc. were not found out during the monitoring.
89. The regulatory and methodological ground for radiation background measurements was the regulatory documents: "Sanitary and Epidemiological Requirements for Radiation Safety", approved by Order of the Minister of National Economy of the Republic of Kazakhstan No.155 dated February 27, 2015. According to the reports of instrumental measurement of radiological indicators for the 3 and 4 quarters of 2020, the level of contamination by radioactive substances was determined within 0.042 - 0.068 mc³ per hour in the 3 quarter and 0.043-0, 073 mc³ per hour in the 4 quarter against the established limit not more than 0.20 mc³ per hour. The results of radiation background monitoring show that the environmental condition is satisfactory.
90. During the reporting period, the Contractor did not provide borrow pit data. There is also no such information in the EMP reports for the reporting period.

4.1.1.2 Water quality

91. As sources of construction and drinking water, water is used from water towers located in Dossor, Makat villages, which are serviced by "Temirzholzhylu-Atyrau" LLP. During construction works, water is used for household and industrial needs. Water control is not provided, because drinking and construction water supply is provided from culvert, which is located in Makat village and serviced by PSE "Atyrau Su Arnasy". The drinking water quality meets sanitary and epidemiological requirements.
92. Possible water bodies that may be affected by the construction works are 2 rivers: Sagiz and Kenzhaly. The main regulatory and methodological documents that guided during the natural water monitoring in Sagyz and Kenzhaly rivers are: ND No.209 dated March 16, 2015. Water sampling was conducted in accordance with ST RK GOST R 51592-2003 "Water. General requirements for sampling". The analyses were conducted in accordance with the approved standards. Water sampling was carried out within the reporting period in the third quarter on 18.09.2020 and in the fourth quarter on 09.11.2020.
93. According to the laboratory data of the Measurement reports (Appendix 1), the dry residue in the samples from Sagiz and Kenzhaly rivers significantly exceeds the MPC and refers to the medium salt water. The indicator of chemical oxygen uptake also exceeds the permissible limit. Thus against to the maximum permissible limit 30.0 mg O₂/dm³, there are 51.3 mg O₂/dm³ in the third quarter and 54.1 mg O₂/dm³ in the fourth quarter in the samples from Sagiz river. There are 54.1 mg O₂/dm³ and 57.7 mg O₂/dm³ for quarters respectively in samples from Kenzhaly river. The high salt content may indicate the possible presence of toxic metal ions, along with harmless compounds, in the water that have entered as a result of economic activities of other individuals and legal entities within the project area. Since the Contractor strictly controls any impacts of its personnel (prohibition of car wash near rivers, prohibition of any unauthorized activities of environmental specialist in the vicinity of water sources and other negative impacts), the Contractor is not a source of contamination of these water resources.
94. Total hardness in the samples taken from Sagiz river within 13.7 mg-eq/dm³ in the third quarter and 16.0 mg-eq/dm³ in the fourth quarter, and 14.7-16.0 mg-eq/dm³ in the samples taken from Kenzhaly river, it is characterized that water from these rivers is very hard, as exceeding MPL 12.0 mg-eq/dm³. This exceedance indicates the influence of groundwater hardness in which is much higher than in surface water, as well as due to seasonal fluctuations of hardness values.

However, this slight excess in hardness does not affect the external environment of the project, in particular the watering of animals.

4.1.1.3 Air quality

95. The main applicable ambient air quality standards include:

- hygienic regulations of the Republic of Kazakhstan (maximum permissible concentrations (MPC) of pollutants in the ambient air of settlements according to Order No.168 of the Minister of National Economy of the Republic of Kazakhstan dated February 28, 2015);
- Ambient air quality regulations according to the EU Directive 2008/50/EC (Ambient air quality and cleaner air for Europe);
- WHO Recommendations on Ambient Air Quality (2005) and additional WHO recommendations and assessments related to atmospheric air pollutants.

96. Air pollutant levels on Lot 4 area were measured according to the approved scheme in the Picture 4 above. The following indicators were measured: Carbon monoxide (CO), Nitrogen monoxide (NO), Nitrogen dioxide (NO₂), Sulphur dioxide (SO₂), Hydrocarbons C₁₂-C₁₉, Hydrogen sulfide, Dust (suspended solids). The laboratory measurement data according to the reports are attached in Appendix 2.

97. During the reporting period, air pollution level measurements were taken at the following locations: territory of construction site of Asphalt plant, SPZ, North part, SPZ, North-East part, East part, SPZ, South-West part, two locations on road reconstruction site, Sagiz bridge construction site, Nogayti bridge construction site.

98. The instrumental measurements of air quality conducted at the road reconstruction sites in the third and fourth quarters of 2020 showed, that the maximum allowed concentrations (MAC) of pollutants for all analyzed substances do not exceed the sanitary and hygienic regulations for maximum permissible concentrations (maximum one time MAC) established for populated areas. Average concentrations of nitrogen dioxide, nitrogen oxide, carbon monoxide on the surveyed territory are within the permissible limits. Concentrations of inorganic dust 70-20% SiO₂ do not exceed the established limits in industrial and residential areas.

99. According to the national standards, an impact of minor intensity is an impact associated with an increase in air pollutant concentration less than 10% of the MPC, while as a general rule, the EHS Guidelines propose a level of 25% of the applicable air quality standards in order to preserve the possibility the further sustainable development in this air basin in the future.

4.1.2 Environmental measurements on Lot 5 site

100. Lot 5 concluded an agreement for the IEM No.211/3/AZHK dated July 04, 2019. "EcoNormative" LLP have conducted instrumental measurements of air pollution level quarterly on 4 points of Asphalt plant about 300 meters: North, South, East and West. Noise and vibration level was measured at the borrow pits where construction activities are on progress and on the construction camp at noise and vibration sources.

4.1.2.1 Noise and Vibration

101. Noise and vibration level measurements were conducted quarterly according to the EMP. Vibration and noise level measurements were carried out by specialists of Atyrau regional RSE "National Center of Expertise" of the Committee for Public Health Protection of Atyrau region based on the agreement for noise and vibration No.561 dated 22.05.2020. Measurements were on the construction activities work places: borrow pit No.12, borrow pit No.13 and construction camp. Analysis of data from the Measurement reports shows that the noise levels in the third

quarter dated 17.09.20 and in the fourth quarter dated 08.12.2020 were recorded within 55-61 dBA. These values do not exceed the permissible noise level 80 dBA. Vibration levels were recorded within 61 dB - 69 dB against to a permissible equivalent level of vibration 95 dB.

4.1.2.2 Soil

102. There are no instrumental measurements of soil contamination on this site according to the EMP. There is no permanent placement of production waste on the enterprise territory, temporary storing of production and consumption wastes is conducted in compliance with necessary requirements that exclude impact on the soil cover.

In order to reduce the impact on land resources, the Contractor executes the followings:

- compliance with the technological work procedure;
- fuelling of machinery is carried out on designated areas;
- in order to mitigate dust on work places, dust control activities are conducted;
- traffic of machineries is gone through the existing roads and temporary bypass roads with a hard pavement, which reduces the impact of ongoing activities.

103. During the reporting period, the excavation works were carried out at 6 borrow pits. Requests for borrow pits applied previously, due to lack of demand for soil, were withdrawn by the Contractor. Information submitted in the first half of 2020 remains as before. The Table 18 includes data as of December 31, 2020.

Table 18. Lot 5 borrow pit information for the second half of 2020, July-December

Name	KM/PK	Location	Reserve			Extraction	Status
			Depth m	Thous. m ³	m ³		
Project borrow pit No.3	407++30/ 375+25	To the right from road axis 305m	3.0	986.9	986900	Suspended	1 horizon 3.0 m
Project borrow pit No.4	367+400/ 369+04	To the right from road axis 300m	3.0	300	300000	Suspended	1 horizon 3.0 m
Borrow pit No.23	381+00/ 86+00	To the right from road axis 300m					Withdrew the request for permission
Borrow pit No.7	382+00/ 98+00	To the right from road axis 400m			141530	Ongoing	proposed
Borrow pit No.8	386+00/ 138+00	To the right from road axis 400m				Ongoing	proposed
Borrow pit No.10	397+00/ 246+00	To the right from road axis 9000m			136260	Ongoing	proposed
Borrow pit No.11	405+00/ 330+00	To the right from road axis 1870m			126213	Ongoing	proposed
Borrow pit No.12	406+00/ 335+00	To the right from road axis 1800m	1.6		108200	Ongoing	proposed
Borrow pit No.13	406+00/ 335+00	To the right from road axis 1800m			134196	Ongoing	proposed

4.1.2.3 Water quality

104. Temporary watercourses occur only during heavy rain or heavy snow melt within the project works territory of Lot 5. Surface water resources are only the flow of Mukur river coming from

Aktobe region, also local flow of small temporary watercourses and small rivers of the second and third type. Mukur river does not have a permanent flow for 11 months throughout the area (about 20 km). In summer the river dries up completely. An agreement No 211/3/AZHK dated 04.07.2019 was concluded with "EcoNormative" LLP for quarterly IEM. According to the EMP, Mukur river is controlled, but water monitoring/sampling for the third and fourth quarters of 2020 was not carried out due to the lack of water/flow in the river.

4.1.2.4 Air quality

105. Instrumental measurements of air pollution level are carried out on Lot 5 based on the agreement No.211/3/AZHK dated July 04, 2019 concluded with "EcoNormative" LLP. Air pollution level monitoring was carried out on the sites where the construction activities have been conducted during the reporting period. Appendix 4 presents data from the IEM report conducted in the third quarter on 13.09.2020 and in the fourth quarter on 26.11.2020. Analysis of the data from the IEM report on air pollution shows that there were not exceedance of the MAC of all the determined indicators at all measurement points. According to the results of observations, generally, the air condition on Lot 5 site was assessed as consistently good. No deterioration of air quality was noted.

4.1.3 Environmental measurements on Lot 6 site

106. Lot 6 concluded an agreement for the IEM with "EcoNormative" LLP No.211/3/AZHK dated July 04, 2019. This agreement was prolonged for 20210. This agreement includes the scope of IEM activities for Lot 5 and Lot 6 as the Contractor Lot 6 is the partner of on Lot 5 site. An agreement for noise and vibration was concluded with Atyrau regional RSE "National Center of Expertise" of the Committee for Public Health Protection of Atyrau region No.561 dated 22.05.2020.

4.1.3.1 Noise and Vibration

107. According to the Guidelines of the International Finance Corporation "Environment, Health and Safety Guidelines", the MPL of noise for construction areas is 85 dBA and a peak (instantaneous) noise is not higher 140 dBA, and for residential areas is 70 dBA. The national standard Order of the Ministry of Health of RK No.611 about approval of Sanitary rules "Sanitary and epidemiologic requirements for facilities", Order of Ministry of National Economy (Hygienic Standard No.169 dated 28.02.2015) defines that MPL of noise at construction areas is 80 dBA and for operator's work in laboratory, Asphalt plant is 90 dBA, and the MPL at residential areas is 60 dBA. The national standard is used for this report because it is more demanding for the meaning of MPL. Vibration and noise level measurements Lot 6 were carried out on 15.09.2020. According to measurement reports, the noise and vibration measurements at any points did not exceed the permissible level. MPL not exceeded at any measurement points. Also, the noise level was within 51 dbA on the road site and in the cabin of construction equipment, the vibration was 65 dB.

4.1.3.2 Soil

108. The monitoring of soil cover on the site is not provided by the EMP. In order to reduce the impact on land resources, the Contractor executes the followings:
- compliance with the technological work procedure;
 - fueling of machinery is carried out on fuel stations in Makat and Dossor villages;
 - in order to mitigate dust on work places, dust control activities are conducted according to the dust control schedule;

- traffic of machineries is gone through the existing roads.

4.1.3.3 Water quality

109. There is no surface water body within Lot 6 site. Temporary watercourses occur only during heavy rain or heavy snow melt. The hydrographic system is not developed in this area. Surface water resources are only the flow of Sagiz river coming from Aktobe region, also local flow of small temporary watercourses and small rivers of the second and third type. Sagiz river enters its lower reaches, losing in Tenteksor. Its valley in this section is unclear, its slopes are not very gentle and merge inconspicuously with the surrounding area. The riverbed is very winding. Sagiz river has not a permanent flow for 11 months throughout the area (about 30 km). The distance from the project site to Sagiz river is 40.5 km. The distance to the Caspian Sea is over 60 km. As source of drinking water, water is used from water towers, which are serviced by "Temirzholyu-Atyrau" LLP.

4.1.3.4 Air quality

110. Based on the service agreement with "Econormative" LLP No.211/3/AZHK dated July 04, 2019 the environmental laboratory specialists have conducted air measurements and sampling in the third quarter on 14.09.2020 and in the fourth quarter on 17.11.2020 on the SPZ at 4 points of Asphalt plant, aggregate materials storage and road construction site "Aktobe-Atyrau" km 418-458. Also, air had not measured at the borrow pits as there was not activities. According to the measurement reports (Appendix 5), the pollution level on Lot 6 site does not exceed the MAC for all monitored indicators. The environmental impact is temporary and it does not have a negative impact.

4.2 Trends (general directions)

111. During the reporting period, there were no adverse impacts on the environment: air, soil, water resources, vibration and noise, on the health of the project affected persons, on flora and fauna.
112. The impact of the restrictive measures due to COVID 19 pandemic has affected the work of environmental specialists on the sites in terms of ensuring disclosure of information on the EMP activities. The environmental specialists on the sites were not able to fully carry out their work according to the developed environmental impact management system of the project. The environmental awareness activities were not carried out within the project among the engineering and working staff during the reporting period.

4.3 Summary of the monitoring results

113. The submitted monthly reports of environmental specialists on the sites, IEM reports of Lot 4, Lot 5 and Lot 6, as well as observations and audits indicate that there is no negative impact of the construction activities on the environment. Pollutant impacts (water, soil, air, health of the PAP) of noise and vibration levels do not exceed MPC and MPL. The mitigation measures taken by the Contractors are sufficient. The Contractors' activities have an acceptable impact on the environment.
114. Analysis of activities executed to comply with the regulations, rules, requirements of the environmental protection activities is generally assessed as satisfactory. The activities have been carried out in accordance with the EMP. Detailed information is presented in the Table 19 below.

Table 19. Environmental compliance monitoring on Lot 4, Lot 5, Lot 6 and Lot 7

No	Location	Issues of concern	Recommended measures	Implementation/ Compliance	Execution status
1	Road section	Using safety tools (protective glasses, gloves, special clothes, helmet, safety shoes and etc.) by workers and Engineers	Availability of safety tools in the base camp and on the construction site.	Safety tools are provided for workers and Engineers as necessary	Complied on all sites
2	Base camp	Water supply	To provide drinking water and water for domestic use, availability of wash basin in shower unit, toilet, kitchen and canteen. Cross-check and uninterrupted supply of drinking water	Devices are provided. Pipelines are connected to the base camp	Provided on all sites
3		Sanitation and hygiene	Providing toilet bowls and rinsing water in shower units. Transportation to septic tanks for processing and disposal	Base camp is provided and complied	Provided on Lot 4 and Lot 6. Lot 5 is in unsatisfactory condition. Lot 7 is on the mobilization stage
4		Kitchen and canteen	Provision of appropriate ventilation, cranes and providing hygiene on cooking, eating and food storage places	The construction of own canteen, outsourcing and catering service by the third party organization	Provided on all sites
5		Drainage in the base camp	Provision of water drainage within the base camp territory. To avoid accumulation of water inside of camp.	Drainage system is provided	Complied on all sites
6		SW and waste	Location of waste containers, urgent arrangement of pits for waste disposal, to cover and control on base camp territory.	There are temporary waste storages on all base camps. Control the implementation of waste management plan on all sites.	Provided on all sites
7	Quarry / soil borrow pit territory	Material stockpiling in accordance with the RK environmental legislation	To extend permission for soil extraction from borrow pits		No data from thw Contractor Lot 4 Lot 5 and Lot 6 not necessary. Lot 7 has

					permission documents for Phase I which can be used for Phase II of construction
8	Fire-fighting equipment in the base camp and office	Fire-fighting equipment must be in the base camp, production base and office according to the requirements	To put fire-fighting equipment in well visible place and in such way it can be used in case of emergency situation.	In all facilities of camp and production base	Provided on Lot 6 and Lot 7. On Lot 4 and Lot 5 required to be installed
9	Vehicle and equipment traffic in the base camp	Excessive dust pollution in the camp territory and noise impact to the environment as a result of vehicle traffic within the camp territory and site.	Equipment, which meets environmental standards for noise should be used on the construction site and base camp.	On the residential area of base camp and on the production base	Executed on all sites
10	Asphalt plant	Provision of PPE, provision of medicinal and prophylactic food and milk. Dust control within the territory and in storages.	Compliance with safety regulations and requirements, compliance with FIDIC, contractual obligations	PPE provision, dust control schedule is controlled	Executed on all sites

4.4 Use of Material Resources

4.4.1 Current period

115. Use of resources during the reporting period on Lot 4, Lot 5 and Lot 6 sites is shown in the Table 20 below.

Table 20. Use of resources in the second half of 2020

Resources / Sites	Lot 6	Lot 5	Lot 4
Power supply, kW/h	148 967	-	642 021
Natural gas, thousand m ³	-	-	721 008
Drinking water, m ³	1 727 505	1 564	2 884
Construction water, m ³	11 132	84 250	95 160

4.4.2 Cumulative use of resources

116. On Lot 4, power consumption in the second half of year was significantly lower than in the first half. The Contractor strengthened control of power consumption which allowed to reduce the consumption. The Contractor continues to study time of work processes and record resource

consumption readings. This activity has increased discipline and responsibility for rational use of resources. Regarding the drinking water, there has been a decrease in consumption due to reduced using and continuous monitoring of consumption. Regarding the construction water, there is no data for the previous period to compare.

117. There is no data of power and natural gas on Lot 5. Only drinking water data was submitted. Drinking water data for the reporting period more than the previous period. The excess is due to the increased work activities and the mobilization of more staff on the site in the second half of year.
118. On Lot 6, power consumption decreased for 30% compared to the previous period due to the suspension of asphalt plant operation and the control and recording the power consumption. Natural gas consumption has increased 3 times due to increased demand in autumn-winter period. Consumption of drinking water was 2 times higher than in the first half of year. This exceedance is due to an increase in drinking water consumption during summer months. It is impossible to compare the construction water consumption as there is no data for the previous period.

4.5 Waste Management

119. Waste management is organized by the Contractor according to the prepared EMP's attachment plans. According to requirements of environmental legislation (item 2, article 289 of Environmental Code of RK), data sheet of hazardous wastes are prepared by persons due to whose activity wastes are generated. All Contractors have completed waste data sheets and registered them in the Environment Department of Atyrau region. SW generation areas on Lot 4: production base located in Sagiz village. There are the Contractor's laboratory, concrete mixing plant, asphalt plant on the production base. Wastes from this area are stored in a designated area for temporary storage with subsequent removal to disposal by specialised companies. SW is removed from this base according to the agreement with IE "NZ" dated November 16, 2020, one time the followings have been disposed: oil-contaminated soil - 10 tons, tyres - 2 880 nos., used air and oil filters - 2 500 nos, used bags of bitumen, used bags of powder - 9 nos. An agreement for removal of liquid waste was concluded with "Temirzholylyu-Atyrau" LLP, agreement No.2020/TZHZH A-15. During the reporting period, 10 m³ of liquid waste was removed.
120. Lot 5: There are base camp with accommodation facilities, offices, canteen, the Contractor's laboratories, asphalt plant, workshops on the production base. According to the Camp management plan, a temporary SW storage is arranged with subsequent removal to a landfill. An agreement for removal of SW, hazardous waste and effluents was concluded with "Promecology" LLP, agreement No. 01/20 dated 05.01.2020. According to the submitted reports, SW 1.75 tons, luminescent lamps 0.048 kg for August, tyres 7 nos. for July were removed. Data for the fourth quarter has not been submitted. The Contractor concluded an agreement No.23/Z/AZHK for liquid waste removal services on 01.01.2020 with "ZapKazService" LLP. There is no data on the quantities of removed waste in the submitted reports.
121. Lot 6: There are offices, accommodation for staff, canteen, laboratory, asphalt plant on the production base located in Zhamansor village. The Contractor concluded an agreement for removal of SW, hazardous waste with "Promecology" LLP, agreement No.01/20 dated 05.01.2020, and with "ZapKazService" LLP for liquid waste removal services, agreement No.23/Z/AZHK dated 01.01.2020. During the reporting period, the following wastes were removed: SW - 5.75 tons, waste oil - 80 kg, luminescent lamps - 0.048 kg and solid waste - 40 m³.

4.5.1 Current period

122. During the reporting period, regarding the waste management the Contractors followed the items prescribed in the EMP. Due to the lack of landfills at the project road implementation sites, the contracted SW removal companies disposed the removed SW to landfills for which has an agreement with the landfill owner.

4.4.1 Cumulative Waste Generation

123. Cumulative waste generation on Lot 4, Lot 5 and Lot 6 consists SW, waste oil (Lot 6 data), LW, oiled soil, waste oil filters, oiled rags. The table 21 below shows cumulative waste generation based on the reports of environmental specialists' on the sites.

Table 21. Cumulative waste generation on all sites

Waste	Cumulative volume on all sites	Hazard class	Recommendations	Data source
SW	17.5 t	Green	Designated area, containers with lids and marking properly	Lot 4, Lot 5 and Lot 6
Tyres	2 886 nos	Green G	Showed below on the item 123	Lot 4 and Lot 5
LW	50 m ³	Green		Lot 4 and Lot 6
Big-bags (bitumen transportation)	3 kg	The composition of bags is unknown	In packing, containers, bags	Lot 4
Luminescent lamps	9 nos	Amber hazard class 1 extra hazardous	To keep in the sealed containers until sending for disposal	Lot 5 and Lot 6
Oiled soil	17 t	Amber AE ₀₂₀	In the sealed containers	Data from Lot 4 and Lot 6
Waste filters	2 500 nos	Amber AC ₁₃₀	Keep open on the V-type stock	Lot 4
Waste oil	80 kg	Amber AC ₁₃₀	In the sealed containers	Lot 6

Requirements for owners (generators) of waste tyres:

- to manage the waste safely from the moment of its generation;
- to collect and store these wastes separately in designated areas before handing them over;
- to use the services of specialized companies;
- to pay for collection, storage, transportation, disposal, recycling of waste tyres;

- e. to keep records of new tyres, tyres in use, also to show tyres removed from use in the logbook.

Individuals and legal entities - owners of waste tyres shall be responsible for safe waste management from the moment of its generation until its transfer to the transport company.

- 124. Medical waste should be included in the subsequent reports. Medical wastes from medical facilities of construction camps shall be managed in accordance with requirements of Sanitary Rules "Sanitary and Epidemiological Requirements to Healthcare Facilities" and "Sanitary and Epidemiological Requirements for Collection, Use, Transportation, Storage and Disposal of Waste of Production and Consumption" by Order of the Minister of Health of the Republic of Kazakhstan No.187 dated April 23, 2018. Disposable, waterproof bags, pockets, metal and plastic containers, yellow-coloured or yellow-marked containers designed for safe collection and disposal of medical waste may be used for waste collection.

4.6 Health and Safety

4.6.1 Public Health and Safety

- 125. According to the ADB letter dated 01.09.2020 about the necessity of conducting COVID-19 risk assessment at the project level and updating the respective plans such as Health and Safety Plan (HSP) and Emergency Response Plan (ERP), as well as Environmental Management Plan (EMP), on 12.09.2020 the Engineer arranged the training on COVID-19 spread risks for the Contractors' specialists and gave consultation for updating plans above. Now all plans are proceeded actively.
- 126. On Lot 4 permission No.40 was received from "NC "KazAutoZhol" JSC Atyrau branch for opening traffic through asphalt binder course of road. Temporary road marking has been marked. At the moment temporary road signs are being installed by the consent of Atyrau regional Administrative police department. The project length is 40,1 km, ready for traffic is 39,2 km with a width 9 m. Bypass road condition is generally satisfactory. During the reporting period road safety and maintenance activities were carried out, namely, levelling and rolling of critical sections. Also, carriageway and shoulders of bypass road are being cleared timely from snow. During summer and autumn period dust control activities were carried out 3 times a day.
- 127. On Lot 5 based on the instruction given by the minutes of site meeting held in Atyrau region by "NC "KazAutoZhol" JSC Chairman, No.87-P dated December 2-3, 2020, the Contractor opened traffic through asphalt binder course with installation of road signs and road marking on PK 210-255 and PK 334-448. 12 road signs and 56 road delineators have been installed. An order was applied for additional road signs. All temporary road signs were installed in accordance with approved schemes and ST RK 1412-2017, ST RK 2607-2015. Temporary road signs have a reflective surface and they have been cleaning.
- 128. During the reporting period there was 1 road accident on Lot 5 site. On 05.08.2020 about 13:00 o'clock at PK 177 a vehicle Mitsubishi Galant plate no. 815 WQA 09 failed a control and overturned on the left side of the road. As a result of road accident, passengers with different injuries were taken to the hospital of Mukur village. There is no casualty.
- 129. On Lot 6 the Contractor opened for traffic the bypass road from PK0+00 to PK367+00. On these sections 1) PK 0+00 to 10+50, 2) PK 20+00 to 32+00, 3) PK 35+00 to 50+00, 4) PK 59+00 to 67+00, 5) PK 70+00 to 82+00, 6) PK 86+00 to 100+50 the following work activities were carried

out: levelling and compaction of the bypass road, also elimination of subsidence, potholes, bumps, blowup and other damages on the bypass road carriageway. During short-time activities on a bypass road, traffic controllers are involved here. The number of signalman and traffic controllers is 3.

130. During the reporting period there were 2 road accidents on Lot 6 site. On 04.10.2020 at 12.30 o'clock local time, there was a road accident on the site at PK 313. There was head-on collision of two cars on this section, as its result 9 passengers were died. The second road accident was on the same day on 04.10.2020 at 20.00 o'clock local time at PK 180 due to a violation of requirements of prohibiting road signs a car Toyota Hilux a plate No. 834 DR 02 collided to soil stock. One passenger was injured. He was taken to a hospital where he was provided with a medical care.
131. The Table 22 below includes a summary of all accidents, that have been taken place on the sites since the commencement of road construction.

Table 22. Statistics of accidents and incidents on the project since its commencement

Name	Lot 4	Lot 5	Lot 6	Lot 7
Road accident	1	1	2	0
Incident	1	0	0	0
Loss of labour capacity	0	0	0	0
Downtime due to incident	0	0	0	0
Total:	1	1	2	0

132. It should be noted that the above accidents on all sites were caused by the drivers who ignored the speed limit and prohibition signs. Monitoring of each incident and accident has shown that safety signs have been installed on the site according to the approved traffic management plan. The fatal accident on Lot 4 was analysed by the Traffic Safety Department and unscheduled trainings were held for all drivers of special equipment. The fatal accident on Lot 6 because of what 9 people were died, was also carefully analysed, there is no project impact on this accident, the road on the day of the accident was in satisfactory condition, visibility was good, safety signs were installed and they were visible to drivers. The cause of such a major accident with casualties was serious violation of traffic rules by drivers of vehicles. In particular, it was speeding violation on this section.
133. Road safety issues on the project are monitored in accordance with the approved Traffic Safety Plans (agreed with the CSC and the Police Department of Atyrau Department of Internal Affairs). As a result of investigation of the circumstances of road accidents, the authorised body has recognised that the accidents are related to non-compliance with the Traffic Rules in terms of speed limits and keep a distance and measures when overtaking a moving vehicle.
134. Safety compliance at construction sites is also checked in a timely manner by the respective responsible persons of the contractors. The relevant incidents are investigated and additional briefings are provided to the workers.

135. In order to ensure safety for the public, the Contractors on the sites carried out activities in accordance with the instructions of the Chief Sanitary Doctor of the Republic of Kazakhstan. Medical personnel together with health and safety specialists were involved in organisational work to form a resource (irreducible supply of personal protective equipment: medical masks, gloves, antiseptics, disinfectants) to implement preventive measures for COVID 19 non-proliferation.

4.6.2 Workers Health and Safety

136. Health and safety conditions in the workplace are regulated by the Law “On the Safe Use of Machinery and Equipment”, Law No.305-III ZRK dated July 21, 2007, Fire Safety Regulations No.1077 dated October 9, 2014 and other legal and regulatory acts. As part of the Contract, the Contractors have developed the HSP which is periodically revised. The last revisions were related to possible risks due to COVID 19 spread.
137. During the reporting period, the Contractors carried out activities according to the approved traffic management plans. Timely supervision and consultation by the CSC’s Road Safety Engineer ensured the safety of road users and Contractor’s personnel. During the audit periods, it was noted that the necessary activities are being carried out by the Contractors such as safety signs installation, temporary roads widening, hole patching and preparation for road maintenance. Dangerous sections are marked with warning signs.
138. Daily trainings on safety and road safety have been conducting with all staff, including drivers, operators of special equipment before starting work. Explanation works are conducted with working staff on the workplaces regarding the compliance with the safety rules and safe working methods. However, it should be noted that there was a fatal incident on Lot 4 on the Subcontractor's road section. On October 3, 2020, a GRW roller ran over the Subcontractor's employee while paving the layer of crushed stone-sand mix reinforced by cement at PK 225+00. An ambulance was immediately called to the incident site. The injured person was taken to the hospital in Sagiz village, where he died without regaining consciousness due to his nonsurvivable injuries. This incident is described in detail in the special template as *Appendix 11*. There are the materials and information about the incident, as well as measures to prevent future similar and other incidents in *Appendix 12*.
139. The Contractors on the sites have developed appropriate COVID prevention measures. The health and safety plans include measures recommended by the local health department: strict control of third-party visits to the camp, compliance with face mask requirement, provision of personal protective equipment: medical masks, gloves, antiseptics. Conducting thermometry tests at least twice a day, maintaining a physical distance at least 1.5 metres in the accommodations and canteen. Sending staff to work remotely. Control the cleaning of facilities and treatment of surfaces with disinfectant. Information work among company staff and develop the medical boards with visual updated information in languages used for communication between staff. Sanitary facilities (sinks, showers, laundries, toilets, etc.) are provided with soap and disinfectants in necessary and sufficient quantities. The canteens are equipped with disinfectants sufficiently to do treatment of instruments and tools.
140. The site monitoring showed that in Lot 4 measures for the non-proliferation of infectious and viral diseases were arranged. Medical staff has an irreducible supply of PPE and medicines for 3 months, there is a box for isolation of patients with signs of COVID 19. Medical staff and H&S specialists ensured compliance with Covid protocol on the site. There is an unsatisfactory condition on Lot 5 site on the provision of an irreducible supply of PPE and antiseptics due to the long process of procuring resources. On Lot 6 the measures are ensured moderately, medical staff complies with Covid protocol (informing the staff, monitoring compliance with face mask

requirement, actions at the first sign of disease, communication and interaction with stakeholders).

141. Generally, the measures taken allowed to the Contractors to keep their workers healthy. There was not spread of seasonal disease or COVID 19 on the sites.

4.5 Study (training)

142. The studies on EMP implementation, site monitoring, regular health and safety instructions, AIDS / HIV and COVID 19 pandemic issues are conducted on the sites by H&S specialists and medical staff. During the audit, the CSC noted that the Contractors' environmental specialists should pay more attention to fixing indicators of environmental activities and consulted them how to identify potential risks of negative impacts on the environment and activity area of people. Also to pay attention to the risks associated with COVID 19 spread.
143. On 12.09.2020 the CSC arranged a training for the safeguard specialists like environmental specialists, Safety and Road Safety Engineers of Lot 4, Lot 5 and Lot 6. The training's theme was related to identification of risks associated with COVID 19 spread, development of risk mitigation measures. The list of training participants is attached on Appendix 8 and the training materials are attached on Appendix 9.

5. SSEMP (SITE SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN) PROGRESS

5.1 SSEMP Review

144. As part of the EMP, the HSP and Emergency Response Plan were adjusted by the Contractors for Lot 4, Lot 5 and Lot 6 as quarantine was imposed in the region and there were pre-conditions for the realization of COVID 19 spread risks that could significantly affect the construction progress. Thus, these plans include activities to mitigate the risks of spread of infectious and viral diseases, corrective actions to educate staff about HIV/AIDS, STD/STI.
145. The activities stated in the EMP were not fully implemented by the Contractors and were not carried out in a proper manner. On Lot 4, the Waste Management Plan was not sufficiently worked out in terms of recording, proper storage on the site and sending for disposal to an appropriate landfill. The monitoring showed that the environmental specialist on Lot 4 site was facing with serious organisational issues related to the project management, as the management was not sufficiently responsive to environmental issues. Under such conditions, by the end of year the environmental specialist managed the situation with the accumulation of large volumes of industrial waste on the construction site, which obviously had an adverse impact both on the environment and on the staff in the camp.
146. The IEM on Lots is conducted quarterly, but the reporting to be submitted on time. For example, Lot 5 did not submit the laboratory report the fourth quarter and monthly report for December to analyse the EMP implementation on this Lot. Lot 6 submitted the EMP for Makat RMD. Contractor of Lot 7 submitted the SSEMP for Phase II of the project: Dossor Bypass way to PMC.
147. Based on the results of corrective actions, the CSC prepared a number of activities for the following period January-June 2021. The Table 23 below shows the results of corrective actions to eliminate identified non-conformances for July-December 2020.

Table 23. Implementation status of Corrective Action Plan for July-December 2020

Activity	Deadline	Responsible	Expected result	Implementation status
To mobilize a key specialist for environmental safeguards on Lot 5	3 quarter of 2020	Manager of "Shanghai Construction Group" Contractor Lot 5	Agreed and approved candidate on Lot 5 site with a permanent timetable	The environmental specialist of Lot 6 and Lot 7 Zhantokova G. was involved
To improve fuel storage by arranging a containment zone and to increase the number of warning signs and instructions in Lot 5 construction camp	3 quarter of 2020	Manager of "Shanghai Construction Group" Environmental specialist Lot 5	Compliance with the EMP and Environmental Code of the RK	Implemented
To make a pit with volume 20-50 m ³ for accumulation of rain water and to install a fence	3 quarter of 2020	Manager of JV "Akkord / Ak zhol kurylys" Environmental specialist Lot 6	Compliance with the EMP and Environmental Code of the RK, Sanitary Rules of the RK	It is not necessary. The Contractor made it in case of need
To submit IEM reports/test reports to the CSC on time	July-December 2020	Environmental Specialists Lot 4, Lot 5	IEM reports should be submitted by the 30 th day of the IEM	Lot 4 submitted the report for 3 quarter on time and for 4

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		and Lot 6	implementation month	quarter on 29.01.2021. Lot 5 submitted the report for 3 quarter. Lot 6 submitted the reports with delay
During the inspection the Contractor's environmental specialist fills out checklists and includes in the monthly reports	July-December 2020	Environmental Specialists Lot 4, Lot 5 and Lot 6 Site managers	Monthly report should be submitted by the 5 th day of the following month after the reporting period	Checklists are filled out, the report submission date is not followed on all sites

5.2 Advanced methods (good practices)

148. The training for the environmental specialists and Safety and Road Safety specialists of all Lots has been conducted by the CSC on 12.09.2020. The result of this work: implementation of joint analysis of the external environment, development of measures for adjustments into the HSP, Emergency Response Plan. Also consolidated responsibility for all safeguard measures as by developing the plans above, the participants take responsibility for the implementation and results of these plans.

5.3 Opportunities for improvement

149. During the reporting period, there was an opportunity for the environmental specialist of Lot 5, Lot 6 and Lot 7 to practice online environmental education and monitoring of the EMP on the sites. But this opportunity was missed. This approach is recommended by the CSC for all sites as the quarantine measures will be extended in 2021 and this work format should be studied, especially as the environmental specialist plans to cover also Lot 7 since 2021.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

150. The general approach taken for the Project is to use the more strict standards in case of a difference between international regulations and RK legislation. In accordance with the IFC general guidelines on environment, health and safety, where the country regulations differ from the levels and measures presented in the guidelines, projects are expected to apply the strictest requirements. In most cases the RK national standards are stricter than EU and WHO standards and therefore they have been used in the impact assessment procedure.
151. The following activities can be noted as effective safeguards on the project:
- Getting to an effective level of interaction between the safeguards specialists: environmental specialists, Safety and Road Safety engineers, medical staff, social safeguards specialists. This interaction has good results, as at least 3 people already monitor the implementation of safeguards on the site. If previously only an environmental specialist was involved, now safety department specialists are assisting. Working as a team makes it possible to quickly and efficiently prepare information (daily summary of preventive resources) and, as a consequence, to immediately respond to eliminate the identified non-conformances;
 - Removal and disposal of industrial waste is performed according to work plans, with minor deviations in the removal date due to the quarantine measures in Atyrau region. All emissions to air were within permissible limits. Instrumental measurements showed no exceedance of permissible limits at all sampling points of Lot 4, Lot 5 and Lot 6;
 - the best planning of construction works which allowed the Contractor not to collect more numbers of equipment in small areas, especially at sensitive areas. The constant adjustment of water trucks timetable taking into account all factors affecting to dusting;
 - an organization chart that allows the environmental management system to work effectively. The organization chart of Contractors include vertical and horizontal interactions, and employees of linear structures (road masters, foremen, etc.) are involved in this process. During the absence of an environmental specialist on Lot 5, Lot 6, these communication relationship were able to provide a partial implementation of the EMP activities: in particular, the implementation of the base camp management plan, dust control plan;
152. Activities to ensure the work safety and safety for the population have been carried out in the necessary and sufficient volumes, which made it possible to prevent the realization of risks as a result of improper maintenance of the bypass and project road. During the reporting period, 4 road accidents were registered on the sites, which are not the consequence of a failure to provide safe traffic. All 4 accidents are the result of ignoring by the drivers the traffic rules and safety signs installed on all sites.
153. Safeguards specialists: the environmental specialist Lot 4 on the site permanently, the environmental specialist Lot 5 and Lot 6 remotely, and Health and Safety Engineers, Road Safety Engineers, medical staff on the sites provided conditions for preventing infection and preventing the corona virus spread on the sites, which allowed the construction activities to continue without loss of personnel.

6.2 Recommendations

154. To achieve better environmental compliance, it is advisable that environmental specialists of all Lots will conduct site visits, following all necessary COVID 19 precautions.

155. Environmental specialists should be mobilized on Lot 5 and Lot 7 sites permanently and the non-conformances identified during the audit should be eliminated as soon as possible. On Lot 5 non-conformances from the previous period have not been corrected.
156. It is highly probable that quarantine measures may continue in 2021, therefore, in order to effectively manage industrial waste, the environmental specialists should identify places for temporary waste disposal at construction camps in compliance with the regulations and requirements of environmental legislation. Medical waste should be included in the waste data sheets.
157. To continue work to prevent the spread of COVID 19 and other viral and infectious diseases in the project area, established communication with and feedback to stakeholders is the most appropriate and effective approach.
158. All sites must obtain a special water use permit. Previously obtained permits have an expiry date as of 31.12.2020.
159. Based on the results of corrective actions implemented in January-June 2020, the site monitoring and environmental audit made in September and December 2020, the CSC prepared a number of activities for the following period January-June 2021. The Table 24 below shows the corrective actions plan.

Table 24. Corrective action plan for January-June 2021

Activity	Deadline	Responsible	Note
To arrange a working meeting with the safeguards team to disclose the second semi-annual report	February 2021	CSC	Online
To mobilize environmental safeguards on Lot 5 and Lot 7 site permanently	February 2021	Project Managers Lot 5, Lot 7	To agree the candidate with the CSC
To eliminate non-conformances on Lot 5: compliance with sanitary and hygienic conditions in the base camp, ensure acceptable conditions in accommodations, eliminate irrational water use (leaks, breakthroughs)	February 2021	Project Manager Lot 5	To concrete the FLM storage. To complete the corrective action plan dated 26.03.2020
To eliminate non-conformances on Lot 4: control timely removal of SW and production waste, ensure fire safety measures	March 2021	Environmental specialist	To install fire-fighting panel on the FLM storage. To conclude an agreement for waste removal and disposal
To eliminate non-conformances on Lot 6: local pollution, arrange proper condition within temporary storage of production waste	March 2021	Environmental specialist	To eliminate a local contamination within the temporary storage of waste oil. To fence the temporary waste storage and to install appropriate signs

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To develop the final EMP, taking into account defects liability period after completion of construction project on Lot 4, Lot 5 and Lot 6 sites, which will include the activities of reconstruction and rehabilitation of sites used temporary (construction camp, production area, material storage and etc.)	Lot 4: March 2021 Lot 5: April 2021 Lot 6: May 2021	Contractors' environmental specialist	Consultation by the CSC and PMC
To conduct awareness work among the subcontractor and service provider personnel about the environmental protection and EMP activities	Monthly	Environmental specialists and medical staff on all Lots	Online and in small groups, keeping the physical distance
To conduct a post-construction environmental audit for all lots	Upon actual completion of construction activities	CSC jointly with the PMC	

Appendix 1

Results of laboratory analysis of water pollution on Lot 4 site

carried out by the testing laboratory "EcoNormative" LLP
 based on the agreement with the Contractor dated 06.01.2020

Sampling points	Pollutants	Limit according to the RD	18.09.2020	09.11.2020
Sagiz river	pH	6,0-9,0	7,15	8,1
	Dry residue (mg/dm ³)	No more than 1500	7525	9775
	Copper (mg/dm ³)	1,0	0,001	0,001
	Lead (mg/dm ³)	0,03	0,001	0,003
	Zinc (mg/dm ³)	1,0	0,005	0,005
	Oil products (mg/dm ³)	No more than 0,1	0,033	0,031
	General hardness, mg.eq/dm ³	7,0-10	13,7	16,0
	Nitrite nitrogen (mg/dm ³)	1,0	0,125	0,069
	Nitrate nitrogen (mg/dm ³)	9,0	6,8	4,9
	COD (mg O ₂ /dm ³) (Chemical Oxygen Demand)	30,0	51,3	54,1
	Muddiness (mg/L)	1,5	23,1	18,5
Kenzhaly river	pH	6,0-9,0	8,12	8,36
	Dry residue (mg/dm ³)	No more than 1500	9775	6983
	Copper (mg/dm ³)	1,0	0,001	0,001
	Lead (mg/dm ³)	0,03	0,003	0,003
	Zinc (mg/dm ³)	1,0	0,005	0,006
	Oil products (mg/dm ³)	No more than 0,1	0,031	0,038
	General hardness, mg.eq/dm ³	7,0-10	16,0	14,7
	Nitrite nitrogen (mg/dm ³)	1,0	0,069	0,053
	Nitrate nitrogen (mg/dm ³)	9,0	4,9	5,0
	COD (mg O ₂ /dm ³)	30,0	54,1	57,7
	Muddiness (mg/L)	1,5	18,5	16,0

Emission monitoring on Lot 4 site
 carried out by the testing laboratory "EcoNormative" LLP
 based on the agreement with the Contractor dated 06.01.2020

Ambient air

Emission source (number of emission source)	Pollutants	Established limit (<u>g/s</u> ; t/year)	Actual result of monitoring (<u>g/s</u> ; t/sq; t/year)	Exceedance of maximum permissible emission limit	Activity to eliminate violation
Asphalt Plant	Carbon monoxide	7,0941	2,03845	comply with regulations	-
	Nitrogen oxide	0,1277	0,048		-
	Nitrogen dioxide	0,7858	0,44131		-
	Sulfur dioxide	23,244	0,07294		-

Radiation monitoring

Name of impact source	Established limit (unit of measurement mcs per h)	Actual result of monitoring (unit of measurement mcs per h)	Compliance with or exceedance of limit of "Sanitary and epidemiological requirements for radiation safety"	Activity to eliminate violation
Asphalt Plant area	not more than 0,20	0,059-0,068	comply	-
Road reconstruction site	not more than 0,20	0,046-0,051	comply	-
Road reconstruction site	not more than 0,20	0,042-0,047	comply	-
Sagiz bridge construction area	not more than 0,20	0,049-0,054	comply	-
Nogaity bridge construction area	not more than 0,20	0,050-0,059	comply	-

Monitoring of impact on the border of sanitary protection zone (SPZ)

Ambient air

Sampling points	Pollutants	Actual concentration	Limit of maximum permissible concentration, mg/m ³	Exceedance of maximum permissible concentration, frequency	Proposals to eliminate violations and improve environmental condition
1	2	3	4	5	6
Asphalt Plant territory					
Asphalt Plant territory	Carbon monoxide (CO)	1,231	5,0	no	-
	Nitrogen oxide (NO)	0,0091	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0083	0,2	no	
	Sulfur dioxide (SO ₂)	0,0121	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,071	1	no	
	Hydrogen sulfide	0,0010	0,008	no	
	Dust (suspended particles)	0,0093	0,5	no	
SPZ North part	Carbon monoxide (CO)	1,233	5,0	no	-
	Nitrogen oxide (NO)	0,0093	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0085	0,2	no	
	Sulfur dioxide (SO ₂)	0,0123	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,072	1	no	
	Hydrogen sulphide	0,0010	0,008	no	
	Dust (suspended particles)	0,0093	0,5	no	
SPZ North-east part	Carbon monoxide (CO)	1,235	5,0	no	-
	Nitrogen oxide (NO)	0,0094	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0086	0,2	no	
	Sulfur dioxide (SO ₂)	0,0124	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,074	1	no	
	Hydrogen sulphide	0,0012	0,008	no	
	Dust (suspended particles)	0,0095	0,5	no	

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East part	Carbon monoxide (CO)	1,232	5,0	no	-
	Nitrogen oxide (NO)	0,0092	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0084	0,2	no	
	Sulfur dioxide (SO ₂)	0,0121	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,071	1	no	
	Hydrogen sulphide	0,0012	0,008	no	
	Dust (suspended particles)	0,0094	0,5	no	
SPZ South-west part	Carbon monoxide (CO)	1,228	5,0	no	-
	Nitrogen oxide (NO)	0,0088	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0080	0,2	no	
	Sulfur dioxide (SO ₂)	0,0118	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,070	1	no	
	Hydrogen sulphide	0,0010	0,008	no	
	Dust (suspended particles)	0,0091	0,5	no	
Road reconstruction site	Carbon monoxide (CO)	0,933	5,0	no	-
	Nitrogen oxide (NO)	0,0113	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0110	0,2	no	
	Sulfur dioxide (SO ₂)	0,0142	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,091	1	no	
	Hydrogen sulphide	0,0013	0,008	no	
	Dust (suspended particles)	0,0084	0,5	no	
Road reconstruction site	Carbon monoxide (CO)	0,849	5,0	no	
	Nitrogen oxide (NO)	0,0121	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0117	0,2	no	
	Sulfur dioxide (SO ₂)	0,0133	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,079	1	no	
	Hydrogen sulphide	0,0010	0,008	no	
	Dust (suspended particles)	0,0091	0,5	no	
Sagiz bridge construction area	Carbon monoxide (CO)	0,881	5,0	no	-
	Nitrogen oxide (NO)	0,0119	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0116	0,2	no	

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	Sulfur dioxide (SO ₂)	0,0127	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,085	1	no	
	Hydrogen sulphide	0,0011	0,008	no	
	Dust (suspended particles)	0,0089	0,5	no	
Nogaity bridge construction area	Carbon monoxide (CO)	0,921	5,0	no	-
	Nitrogen oxide (NO)	0,0125	0,4	no	
	Nitrogen dioxide (NO ₂)	0,0120	0,2	no	
	Sulfur dioxide (SO ₂)	0,0131	0,5	no	
	Hydrocarbons C ₁₂ -C ₁₉	0,074	1	no	
	Hydrogen sulphide	0,0011	0,008	no	
	Dust (suspended particles)	0,0093	0,5	no	

Appendix 3

Environmental Monitoring Checklist

Lot 4 site inspection checklist		
Site visiting date: 18.12.2020 Time: 14:00	Engineer's Representative: Environmental specialist Imbarova Sara Contractor's Representative:	Engineer's ref. No. Contractor's ref. No.
Weather condition: clear, -18 C°, south-east wind with speed 7 m/s		
Work is in progress:	Construction of binder course of coarse-grained asphalt concrete on km 0.6 (PK6-49)	
Issues related to environment	Possible reasons	Proposed mitigation measures
Accumulation of production waste on the site	There is no agreement for production waste removal and disposal	To conclude an agreement for production waste removal and disposal

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
Contractor's base camp						
1	Septic tanks are installed and cleaned according to approved procedures	✓				
2	All effluents flow to septic tanks or to reservoirs for construction water	✓		✓		
3	All hazardous liquids are collected on non-permeable facilities at designated area	✓		✓		Places were defined
4	Solid hazardous materials are stored on designated safe places at work areas	✓				One-time agreement for waste removal and disposal was concluded. Temporary waste storage places are in proper condition

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
5	Effluents are collected in drain system and disposed by the Contractor	✓		✓		
6	All vehicle drive in and out the base camp are controlled	✓		✓		Safety specialist and mechanic are controlling this work
7	Local communities and organizations are informed about construction schedule and any noisy activities on a regular basis through workers and by other activities	✓		✓		
8	Open containers for material storage are covered with canvas	✓		✓		Place was chosen for storage with the further disposal
9	Open fire is prohibited	✓		✓		No open fire neither on site nor base camp
10	Fire-fighting equipment <ul style="list-style-type: none"> ▪ Sand bucket and shovel ▪ Foam fire extinguisher ▪ Fire blanket in the canteen 		✓	✓		There is no fire-fighting equipment on the FLM storage
11	Entering of strangers to base camp is prohibited by installing fencing and security	✓		✓		There is a security man and checkpoint at the base camp entrance
12	All employees provided with personal protective equipment (PPE)	✓		✓		All employees are provided. There is an irreducible supply for the mobilized personnel
13	Smoking is prohibited except smoking places	✓		✓		There are smoking places on base camp territory
14	Relevant road signs and warning signs are installed on site and at unsafe areas	✓		✓		
15	Drinking water is provided by commercial and licensed sources for all employees	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
16	Safety clothes of all employees are washed every day	✓				Safety clothes of employees are washed as necessary
17	All employees are provided with three time meal per day	✓				Local residents have lunch only as they do not work on rotation. It does not breach the Labor Code of the RK.
18	Canteen with sanitary and hygienic conditions on camp	✓				
19	Medical facility and first aid kit on camp and on work areas	✓		✓		First aid kits are replenished as necessary. Logbook for medical facility visit is maintained
20	All employees health is under control of base camp doctor, and appropriate services are provided, also a monthly health checks	✓		✓		Daily pre-work check-up of employees are arranged in medical facility and logbooks for daily health check-up, and also for COVID-19 (body temperature, sobriety test, blood pressure etc.) are maintained.
21	All territory are clean, there is no any waste, except special places for waste disposal	✓		✓		Territory is in proper condition
22	Provision of rest area on camp		✓			The base camp plan does not provide it
23	Child labour (younger than 15 year)	✓				Not observed
Production site						
1	Liquid wastes from Asphalt Plant are stored in a tank and disposed by vacuum vehicle Liman ≤MTTSTH≥	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
2	Solid wastes from Asphalt Plant are stored at designated area and disposed per approved procedures	✓				Plants are installed
3	The plant area is covered by gravel in order to reduce a dusting	✓		✓		
4	The plant area is watered in order to reduce a dusting	✓		✓		Dust control schedule includes watering of plant area
5	Plant can not discharge effluents to any area; non-permeable concrete basins will be constructed for such purpose	✓		✓		Permanent control by the Contractor's environmental specialist
6	All employees of Asphalt concrete and Crusher Plants are supplied with dust masks	✓		✓		According to the HSP and safety regulations
7	All employees at Asphalt Plants are wearing dust masks	✓		✓		Low production culture
8	Sand and crushed stone for concrete and asphalt are stored on wet and covered place	✓				
9	There is a fire fighting equipment in Asphalt Plant	✓		✓		It is provided by the EMP and Fire Safety
10	Plant or equipment with high vibration are installed properly, maintained and operated correctly	✓		✓		
Fuel station						
1	Oil filling will be strictly controlled and is permitted only at the fuel filling station and on workshop area	✓		✓		
2	Fuel tank storage area is fenced and it is a non-permeable, tank's roof is closed	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
3	Fuel station, which provided with fire fighting equipment, is checked every week	✓		✓		
4	There is the warning signs at fuel station	✓			✓	
5	Fuel station is provided with wastebasket	✓	✓			
Contractor's Workshop and Car Wash						
1	Liquid hazardous materials are stored in designated area at the workshop	✓		✓		A special concreted areas was arranged to keep a hazardous materials and installed a fence
2	Solid hazardous materials are stored in designated area at the workshop		✓	✓		
3	There are containers for used oils and hydraulic liquids	✓		✓		
4	Used oil products are collected in concrete tank with a volume up to 110% and tank is cleaned according to approved procedures		✓	✓		
5	Workshop is provided with drainage system		✓	✓		
6	Every vehicle is inspected and maintained on a regular basis	✓		✓		To strengthen daily control of special equipment
7	All construction vehicles meet Euro standards and are equipped with modern noise control equipment		✓	✓		
8	Noise control equipment of all vehicles is maintained and checked as per the approved procedures		✓	✓		
9	All workshop workers are provided with welding equipment and	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
	personal protective equipment					
10	All construction water is collected in concrete tank and cleaned as per the approved procedures	✓		✓		
Project Road						
1	All roads, where planned construction works, are watered by water trucks	✓		✓		To increase watering frequency and water truck number during rain-free period and to take under strict control the sites near to villages
2	There are structures for passage of cattle, sheep and other animals on appropriate places of the project road	✓				
3	Culvert and bridge construction areas are provided with safety ribbons and warning signs	✓				
4	Fencing and checkpoint are installed at all work areas where necessary	✓				
5	Waste storage for any kind as well as machinery or vehicles parking is not permitted within a distance of 100m from any facility (including drainage or irrigation facilities)	✓		✓		
6	All appropriate road signs and warning signs are provided on work sites and unsafe areas	✓		✓		
7	Construction vehicle and plants are maintained properly to reduce gas emissions	✓		✓		To strengthen control of special equipment
8	Noise control measures at special areas	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
Borrow pits						
1	Temporary drainage is provided at borrow pits and quarries	✓				
2	Construction work is stopped between 10.00 p.m. and 6.00 a.m. at 200m from the nearest habitation					There is no any close village
3	Stockpiles do not exceed 3m in height	✓				Control by the master and safety engineer
4	All vehicles with an open body are used for transportation of materials with possible dusting, designed for these purposes with a well-chosen convertible body	✓		✓		
5	During construction works all noise volume is reduced according to the national standards	✓		✓		If necessary
6	Materials with possible dusting are not loaded higher than convertible body level and covered with clean canvas	✓		✓		Operators and recorders monitor the level of soil loading
7	All vehicles, equipment and plant meet Euro standards for exhaust gas emissions	✓		✓		Machineries rented from local people do not comply with regulations, the Contractor's machineries comply with regulations
8	All temporary acquired land is rehabilitated		✓			Upon completion of construction works
9	All material residues and contaminated sites are collected and disposed accordance with approved procedures	✓		✓		
10	Watering is provided during material delivery and processing	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
11	Any adjacent areas are damaged due to spoil ground, restored to its original state					No such case
12	River banks are protected from materials or temporary stockpiles of the contractor	✓				Sagiz river
13	Negative effects or violations due to construction works are controlled with permissible level according to standards	✓				Control by the environmental specialist
14	Access roads to borrow pits, and also borrow pits, quarries and traffic operations are maintained by approved standards	✓		✓		
15	Water discharge and removal, avoiding flooding or damaging to other works or service causing erosion	✓				
Flora and Fauna						
1	Trees and shrubs outside of construction site, but on road reserve are generally preserved from damages					There are no trees on construction site territory
2	Ancient trees have not cut during construction works					There are no ancient trees on construction site territory
3	Cutting off has not taken place without the prior permission of relevant local authorities					No trees
4	Trees or shrubs cut or removed only if they interfere for necessary temporary or permanent works					No trees
5	Construction works are stopped on bridge sites during harvest period (indicate yes or no to construction activities, indicate date)		✓			Bridge construction does not affect to cultivation and harvesting, because they are located on far places

Appendix 4

Results of air measurements on Lot 5

Based on the testing laboratory reports, made under the agreement
 No.211/Z/AZHK dated July 04,2019 with “EcoNormative” LLP

Sampling point	Pollutants	MPC limit, mg/m ³	13.09.2020 mg/m ³	26.11.2020 mg/m ³
Borrow pit No.10	Suspended solids	0,5	Not identified as there was not work on the borrow pit	0,008
	Nitrogen oxide NO	6.4		0.0096
	Nitrogen dioxide NO ₂	0,2		0,0091
	Sulfure dioxide SO ₂	0,5		0.0133
	Carbon oxide CO	5,0		0,812
	Hydrocarbons C ₁₂ -C ₁₉	1		0.082
	Hydrogen sulphide H ₂ S	0,008		0.012
Borrow pit No.12	Suspended solids	0,5	0,0093	0,008
	Nitrogen oxide NO	6.4	0,0084	0.0096
	Nitrogen dioxide NO ₂	0,2	0,0079	0,0091
	Sulfure dioxide SO ₂	0,5	0,0122	0.0133
	Carbon oxide CO	5,0	0,921	0,812
	Hydrocarbons C ₁₂ -C ₁₉	1	0,064	0.082
	Hydrogen sulphide H ₂ S	0,008	0,0011	0.012
Borrow pit No.13	Suspended solids	0,5	0,0086	0,008
	Nitrogen oxide NO	6.4	0,0095	0.0096
	Nitrogen dioxide NO ₂	0,2	0,0086	0,0091
	Sulfure dioxide SO ₂	0,5	0,0114	0.0133
	Carbon oxide CO	5,0	0,791	0,812
	Hydrocarbons C ₁₂ -C ₁₉	1	0,047	0.082
	Hydrogen sulphide H ₂ S	0,008	0,0010	0.012

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Results of measurement of air pollution level on Lot 5 site

No	Sampling point	RD for sampling method	Meteorological characteristics of atmosphere					Pollutant content													
			Air temperature, °C	Atmosphere pressure, mm of mercury	Wind direction	Wind speed, m/s	Humidity, %	CO		NO		NO ₂		SO ₂		Hydrocarbons C ₁₂ -C ₁₉		Hydrogen sulphide		Dust (suspended particles)	
								Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Asphalt plant territory	GOST12.1.005-88, ST RK 2.302-2014, MVI-4215-004A-56591409-2012, MI-4215-013-56591409-2010	21	768	NE	2	48	0,844±0,01	5,0	0,0112	0,4	0,0110	0,2	0,0127	0,5	0,075	1	0,0011	0,008	0,0091	0,5
2	SPZ – South part		21	768	NE	2	48	0,846±0,01	5,0	0,0114	0,4	0,0112	0,2	0,0131	0,5	0,079	1	0,0012	0,008	0,0093	0,5
3	SPZ – South-west part		21	768	NE	2	48	0,848±0,01	5,0	0,0116	0,4	0,0114	0,2	0,0134	0,5	0,081	1	0,0013	0,008	0,0094	0,5
4	SPZ – West part		21	768	NE	2	48	0,844±0,01	5,0	0,0113	0,4	0,0110	0,2	0,0129	0,5	0,077	1	0,0011	0,008	0,0092	0,5
5	SPZ – North-east part		21	768	NE	2	48	0,844±0,01	5,0	0,0110	0,4	0,0110	0,2	0,0125	0,5	0,072	1	0,0011	0,008	0,0090	0,5
6	Aggregate materials storage		21	768	NE	2	48	0,881±0,01	5,0	0,0113	0,4	0,0113	0,2	0,0132	0,5	0,068	1	0,0010	0,008	0,0097	0,5
7	Road site PK 310		22	769	NE	2	52	0,933±0,01	5,0	0,0132	0,4	0,0126	0,2	0,0141	0,5	0,081	1	0,0012	0,008	0,0085	0,5
8	Road site PK 340		22	769	NE	2	52	0,844±0,01	5,0	0,0128	0,4	0,0121	0,2	0,0136	0,5	0,079	1	0,0011	0,008	0,0079	0,5
9	Borrow pit No.4	GOST 12.1.005-88, ST RK 2.302-2014, MVI-4215-004A-56591409-2012,	23	765	NE	3	48	0,812±0,01	5,0	0,0084	0,4	0,0079	0,2	0,0051	0,5	0,056	1	0,0011	0,008	0,0093	0,5

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		MI-4215-013-56591409-2010																			
10	Design borrow pit No.2	GOST 12.1.005-88, ST RK 2.302-2014, MVI-4215-004A-56591409-2012, MI-4215-013-56591409-2010	23	768	NE	2	51	0,721±0,01	5,0	0,0072	0,4	0,0068	0,2	0,0091	0,5	0,049	1	0,0010	0,008	0,0084	0,5

Appendix 5

Environmental Monitoring Checklist

Lot 5 site inspection checklist		
Site visiting date: 18.12.2020 Time: 10:00	Engineer's Representative: Environmental specialist Imbarova Sara Contractor's Representative: Zhantokova G.— Environmental specialist	Engineer's ref. No. Contractor's ref. No.
Weather condition: clear, -23 C°, snow		
Work is in progress:	Cattle pass foundation construction Roadbed construction	
Issues related to environment	Possible reasons	Proposed mitigation measures
FLM storage area and local fuel station are not concreted	No control by the environmental specialist No production discipline	To mobilize an environmental specialist permanently Environmental education of personnel

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
Contractor's base camp						
1	Septic tanks are installed and cleaned according to approved procedures	✓				
2	All effluents flow to septic tanks or to reservoirs for construction water	✓		✓		
3	All hazardous liquids are collected on non-permeable facilities at designated area	✓		✓		
4	Solid hazardous materials are stored on designated safe places at work areas	✓		✓		Places were defined

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
5	Effluents are collected in drain system and disposed by the Contractor	✓		✓		
6	All vehicle drive in and out the base camp are controlled	✓		✓		Safety specialist and mechanic are controlling this work
7	Local communities and organizations are informed about construction schedule and any noisy activities on a regular basis through workers and by other activities	✓		✓		
8	Open containers for material storage are covered with canvas	✓		✓		Place was chosen for storage with the further disposal
9	Open fire is prohibited	✓		✓		No open fire neither on site nor base camp
10	Fire-fighting equipment <ul style="list-style-type: none"> ▪ Sand bucket and shovel ▪ Foam fire extinguisher ▪ Fire blanket in the canteen 	✓		✓		There are not fire-fighting panels within FLM storage area and local fuel station
11	Entering of strangers to base camp is prohibited by installing fencing and security	✓		✓		There is a security man and checkpoint at the base camp entrance
12	All employees provided with personal protective equipment (PPE)	✓		✓		Not all employees provided
13	Smoking is prohibited except smoking places	✓		✓		There are smoking places within the territory
14	Relevant road signs and warning signs are installed on site and at unsafe areas	✓		✓		Road Safety Plan have been preparing
15	Drinking water is provided by commercial and licensed sources for all employees	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
16	Safety clothes of all employees are washed every day	✓				Safety clothes of employees are washed as necessary
17	All employees are provided with three time meal per day	✓				Local residents have lunch only as they do not work on rotation. It does not breach the Labor Code of the RK.
18	Canteen with sanitary and hygienic conditions on camp	✓				It is not comply with the Sanitary and hygienic regulations and requirements for eating facilities
19	Medical facility and first aid kit on camp and on work areas		✓	✓		First aid kits are not replenished. Logbook for medical facility visit is maintained
20	All employees health is under control of base camp doctor, and appropriate services are provided, also a monthly health checks	✓		✓		Daily pre-work check-up of employees are arranged in medical facility and logbooks for daily health check-up (body temperature, sobriety test, blood pressure etc.) are maintained.
21	All territory are clean, there is no any waste, except special places for waste disposal		✓	✓		Territory is polluted by production waste due to untimely disposal
22	Provision of rest area on camp		✓	✓		
23	Child labour (younger than 15 year)	✓				Not observed
Production site						
1	Liquid wastes from Asphalt Plant are stored in a tank and disposed by vacuum vehicle Liman		✓	✓		

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 CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
2	Solid wastes from Asphalt Plant are stored at designated area and disposed per approved procedures	✓		✓		Plants are installed
3	The plant area is covered by gravel in order to reduce a dusting	✓		✓		
4	The plant area is watered in order to reduce a dusting	✓		✓		Documents have been preparing in order to receive permits
5	Plant can not discharge effluents to any area; non-permeable concrete basins will be constructed for such purpose	✓		✓		Permanent control by the Contractor's environmental specialist
6	All employees of Asphalt concrete and Crusher Plants are supplied with dust masks	✓		✓		In the HSP
7	All employees at Asphalt Plants are wearing dust masks		✓	✓		Low production culture Constant control and training
8	Sand and crushed stone for concrete and asphalt are stored on wet and covered place			✓		
9	There is a fire fighting equipment in Asphalt Plant	✓		✓		It is provided by the EMP and Fire Safety
10	Plant or equipment with high vibration are installed properly, maintained and operated correctly	✓		✓		
Fuel station						
1	Oil filling will be strictly controlled and is permitted only at the fuel filling station and on workshop area		✓	✓		It is instructed to eliminate non-conformances
2	Fuel tank storage area is fenced and it is a non-permeable, tank's roof is closed		✓	✓		It is instructed to eliminate non-conformances

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 CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
3	Fuel station, which provided with fire fighting equipment, is checked every week		✓	✓		It is instructed to eliminate non-conformances
4	There is the warning signs at fuel station		✓		✓	It is instructed to install signs
5	Fuel station is provided with wastebasket		✓			It is instructed to eliminate non-conformances
Contractor's Workshop and Car Wash						
1	Liquid hazardous materials are stored in designated area at the workshop		✓	✓		a special concreted areas are arranged to keep a hazardous materials and a fence is installed
2	Solid hazardous materials are stored in designated area at the workshop		✓	✓		Temporary storage is not fenced and not marked with warning signs
3	There are containers for used oils and hydraulic liquids	✓		✓		
4	Used oil products are collected in concrete tank with a volume up to 110% and tank is cleaned according to approved procedures		✓	✓		
5	Workshop is provided with drainage system		✓	✓		
6	Every vehicle is inspected and maintained on a regular basis	✓		✓		To strengthen daily control of special equipment
7	All construction vehicles meet Euro standards and are equipped with modern noise control equipment		✓	✓		
8	Noise control equipment of all vehicles is maintained and checked as per the approved procedures	✓		✓		

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 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
9	All workshop workers are provided with welding equipment and personal protective equipment	✓		✓		
10	All construction water is collected in concrete tank and cleaned as per the approved procedures		✓	✓		
Project Road						
1	All roads, where planned construction works, are watered by water trucks	✓		✓		Additional water trucks were provided during rain-free period
2	There are structures for passage of cattle, sheep and other animals on appropriate places of the project road		✓		✓	
3	Culvert and bridge construction areas are provided with safety ribbons and warning signs	✓				
4	Fencing and checkpoint are installed at all work areas where necessary	✓			✓	
5	Waste storage for any kind as well as machinery or vehicles parking is not permitted within a distance of 100m from any facility (including drainage or irrigation facilities)	✓		✓		
6	All appropriate road signs and warning signs are provided on work sites and unsafe areas	✓		✓		Fuel station is not provided with signs
7	Construction vehicle and plants are maintained properly to reduce gas emissions	✓		✓		To strengthen control of special equipment
8	Noise control measures at special areas	✓		✓		
Borrow pits						

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 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
1	Temporary drainage is provided at borrow pits and quarries			✓		
2	Construction work is stopped between 10.00 p.m. and 6.00 a.m. at 200m from the nearest habitation			✓		There is no any close village
3	Stockpiles do not exceed 3m in height			✓		
4	All vehicles with an open body are used for transportation of materials with possible dusting, designed for these purposes with a well-chosen convertible body	✓		✓		
5	During construction works all noise volume is reduced according to the national standards	✓		✓		
6	Materials with possible dusting are not loaded higher than convertible body level and covered with clean canvas	✓		✓		Operators and recorders monitor the level of soil loading
7	All vehicles, equipment and plant meet Euro standards for exhaust gas emissions		✓	✓		
8	All temporary acquired land is rehabilitated		✓			Upon completion of construction works
9	All material residues and contaminated sites are collected and disposed accordance with approved procedures	✓		✓		
10	Watering is provided during material delivery and processing		✓	✓		
11	Any adjacent areas are damaged due to spoil ground, restored to its original state		✓	✓		Upon completion of construction works

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 CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
12	River banks are protected from materials or temporary stockpiles of the contractor		✓			
13	Negative effects or violations due to construction works are controlled with permissible level according to standards	✓	✓			
14	Access roads to borrow pits, and also borrow pits, quarries and traffic operations are maintained by approved standards	✓		✓		
15	Water discharge and removal, avoiding flooding or damaging to other works or service causing erosion		✓			
Flora and Fauna						
1	Trees and shrubs outside of construction site, but on road reserve are generally preserved from damages					There are no trees on construction site territory
2	Ancient trees have not cut during construction works					There are no ancient trees on construction site territory
3	Cutting off has not taken place without the prior permission of relevant local authorities					No trees
4	Trees or shrubs cut or removed only if they interfere for necessary temporary or permanent works					No trees
5	Construction works are stopped on bridge sites during harvest period (indicate yes or no to construction activities, indicate date)		✓			Bridge construction does not affect to cultivation and harvesting, because they are located on far places

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Appendix 6

Results of air measurement on Lot 6 site

No	Sampling point	RD for sampling method	Meteorological characteristics of atmosphere					Pollutant content, 14.09.2020													
			Air temperature, °C	Atmosphere pressure, mm of mercury	Wind direction	Wind speed, m/s	Humidity, %	CO		NO		NO ₂		SO ₂		Hydrocarbons C ₁₂ -C ₁₉		Hydrogen sulphide		Dust (suspended particles)	
								Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³	Actual, mg/m ³	RD limit, mg/m ³
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Asphalt plant territory	GOST 12.1.005-88, ST RK 2.302-2014, MVI-4215-004A-56591409-2012, MI-4215-013-56591409-2010	21	768	NE	2	48	0,844±0,01	5,0	0,0112	0,4	0,0110	0,2	0,0127	0,5	0,075	1	0,0011	0,008	0,0091	0,5
2	SPZ – South part		21	768	NE	2	48	0,846±0,01	5,0	0,0114	0,4	0,0112	0,2	0,0131	0,5	0,079	1	0,0012	0,008	0,0093	0,5
3	SPZ – South-west part		21	768	NE	2	48	0,848±0,01	5,0	0,0116	0,4	0,0114	0,2	0,0134	0,5	0,081	1	0,0013	0,008	0,0094	0,5
4	SPZ – West part		21	768	NE	2	48	0,844±0,01	5,0	0,0113	0,4	0,0110	0,2	0,0129	0,5	0,077	1	0,0011	0,008	0,0092	0,5
5	SPZ – North-east part		21	768	NE	2	48	0,844±0,01	5,0	0,0110	0,4	0,0110	0,2	0,0125	0,5	0,072	1	0,0011	0,008	0,0090	0,5
6	Aggregate materials storage		21	768	NE	2	48	0,881±0,01	5,0	0,0113	0,4	0,0113	0,2	0,0132	0,5	0,068	1	0,0010	0,008	0,0097	0,5

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(section km 330-504)



Испытательная лаборатория ТОО «ЭкоНорматив»
адрес: г.Атырау, ул.Қ.Сәтбаев, д.5, н.п.5, тел.: 8(7122) 21-06-28
Аттестат аккредитации № KZ.T.06.1234 от 28.11.2016г.

ПРОТОКОЛ ИСПЫТАНИЙ № 515 от "10" 12 2020 г.

всего листов 1
лист 1

Наименование продукции:

Атмосферный воздух

Место отбора:

Площадка АБЗ объекта «Реконструкция автомобильной дороги Республиканского значения А-27 «Актобе-Атырау-граница РФ (на Астрахань)» участок км 418-458» ЛОТ 6»

Заявитель: (наименование, адрес)

ТОО «Ақ жол құрылыс» г.Ақтау, Промзона №9, зд.43

Акт отбора (измерения): (№ акта, дата, тип прибора)

№ 597 от 27.11.2020 г. газоанализатор ГАНК-4

Дата поступления образцов:

27.11.2020 г.

Дата проведения испытаний:

27.11.2020 г.

Обозначение НД на продукцию:

ГН №168 от 28.02.2015г.

Виды испытаний:

Периодические

№ п.п	Наименование точек отбора проб	НД на метод испытаний	Метеорологические характеристики атмосферы					Содержание загрязняющих веществ													
			Температура воздуха, °С	Атмосферное давление, мм рт.ст.	Направление ветра	Скорость ветра, м/с	Влажность, %	СО		NO		NO ₂		SO ₂		Углев. С ₁₂ -С ₁₉		Сероводород		Пыль (изв.вещ.)	
								Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Территория АБЗ	ГОСТ 12.1.005-88, СТ	-11	766	СВ	2	73	0,751	5,0	0,0121	0,4	0,0113	0,2	0,0139	0,5	0,064	1	0,0012	0,008	0,0085	0,5
2	СЗЗ – Южная часть	РК 2.302-2014, МВИ-4215-004А-56591409-	-11	766	СВ	2	73	0,754	5,0	0,0125	0,4	0,0114	0,2	0,0141	0,5	0,067	1	0,0012	0,008	0,0087	0,5
3	СЗЗ – Юго-Западная часть	2012	-11	766	СВ	2	73	0,756	5,0	0,0127	0,4	0,0117	0,2	0,0143	0,5	0,069	1	0,0013	0,008	0,0089	0,5
4	СЗЗ – Западная часть	МВИ-4215-013-	-11	766	СВ	2	73	0,753	5,0	0,0123	0,4	0,0115	0,2	0,0140	0,5	0,065	1	0,0013	0,008	0,0086	0,5
5	СЗЗ – Сев- Восточная часть	56591409-2010	-11	766	СВ	2	73	0,751	5,0	0,0120	0,4	0,0113	0,2	0,0138	0,5	0,062	1	0,0011	0,008	0,0083	0,5
6	Территория инерт.матер.		-11	766	СВ	2	73	0,759	5,0	0,0122	0,4	0,0116	0,2	0,0142	0,5	0,071	1	0,0012	0,008	0,0093	0,5

Протокол распространяется только на образцы, подвергнутые испытаниям



Исполнитель:

Сарсеналиев М.
Ф.И.О.

Руководитель ИЛ:

Соболев Л.
Ф.И.О.

МП

Частичная перепечатка протокола испытаний без разрешения ТОО «ЭкоНорматив» запрещена

Semi-Annual Environmental Monitoring Report for the 2nd half of 2020
CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
(section km 330-504)



Испытательная лаборатория ТОО «ЭкоНорматив»
адрес: г.Атырау, ул.Қ.Сәтбаев, д.5, н.п.5, тел.: 8(7122) 21-06-28
Аттестат аккредитации № KZ.T.06.1234 от 28.11.2016г.

ПРОТОКОЛ ИСПЫТАНИЙ № 517 от "10" 12 2020 г.

всего листов 1
лист 1

Наименование продукции:

Атмосферный воздух

Место отбора:

«Строительство ДЭУ в п.Макад на 477-478км» при «Реконструкции автомобильной дороги Республиканского значения А-27 «Актобе-Атырау-граница РФ (на Астрахань)» участок км 418-458».

Заявитель: (наименование, адрес)

ТОО «Ақ жол құрылыс» г.Ақтау, Промзона №9, зд.43

Акт отбора (измерения): (№ акта, дата, тип прибора)

№ 600 от 27.11.2020 г. газоанализатор ГАНК-4

Дата поступления образцов:

27.11.2020 г.

Дата проведения испытаний:

27.11.2020 г.

Обозначение НД на продукцию:

ГН №168 от 28.02.2015г.

Виды испытаний:

Периодические

№ п.п	Наименование точек отбора проб	НД на метод испытаний	Метеорологические характеристики атмосферы					Содержание загрязняющих веществ													
			Температура воздуха, °C	Атмосферное давление, мм рт.ст.	Направление ветра	Скорость ветра, м/с	Влажность, %	CO		NO		NO ₂		SO ₂		Углев. C ₁₂ -C ₁₈		Сероводород		Пыль (взв.вещ.)	
								Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Территория строительного участка ДЭУ	ГОСТ 12.1.005-88, СТ РК 2.302-2014, МВН-4215-004А-56591409-2012, МВН-4215-013-56591409-2010	-12	764	В	3	68	0,731	5,0	0,0084	0,4	0,0076	0,2	0,0114	0,5	0,071	1	0,0010	0,008	0,0075	0,5

Протокол распространяется только на образцы, подвергнутые испытаниям



Исполнители:

Сарсенгалиев М.

Ф.И.О.

Руководитель ИЛ:

Соболев Д.

Ф.И.О.

МП

С.П.
подпись

Частичная перепечатка протокола испытаний без разрешения ТОО «ЭкоНорматив» запрещена

Semi-Annual Environmental Monitoring Report for the 2nd half of 2020
CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
(section km 330-504)



KZ.T.06.1234
TESTING

Испытательная лаборатория ТОО «ЭкоНорматив»
адрес: г.Атырау, ул.К.Сәтбаев, д.5, н.п.5, тел.: 8(7122) 21-06-28
Аттестат аккредитации № KZ.T.06.1234 от 28.11.2016г.

ПРОТОКОЛ ИСПЫТАНИЙ № 516 от "10" 12 2020 г.

всего листов 1
лист 1

Наименование продукции:
Место отбора:

Атмосферный воздух
Площадка объекта «Реконструкция автомобильной дороги Республиканского значения А-27 «Актобе-Атырау-граница РФ (на Астрахань)» участок км 418-458» ЛОТ 6»

Заявитель: (наименование, адрес)

ТОО «Ақ жол құрылыс» г.Ақтау, Промзона №9, зд.43

Акт отбора (измерения): (№ акта, дата, тип прибора)

№ 599 от 27.11.2020 г. газоанализатор ГАНК-4

Дата поступления образцов:

27.11.2020 г.

Дата проведения испытаний:

27.11.2020 г.

Обозначение НД на продукцию:

ГН №168 от 28.02.2015г.

Виды испытаний:

Периодические

№ п.п	Наименование точек отбора проб	НД на метод испытаний	Метеорологические характеристики атмосферы					Содержание загрязняющих веществ													
			Температура воздуха, °С	Атмосферное давление, мм рт.ст.	Направление ветра	Скорость ветра, м/с	Влажность, %	CO		NO		NO ₂		SO ₂		Углев. C ₁₂ -C ₁₉		Сероводород		Пыль (взв.вещ.)	
								Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³	Факт., мг/м ³	Норма по НД, мг/м ³
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Территория участка дороги ПК 280	ГОСТ 12.1.005-88, СТ РК 2.302-2014, МВН-4215-004А-56591409-2012, МН-4215-013-56591409-2010	-11	767	СВ	2	73	0,941	5,0	0,0121	0,4	0,0117	0,2	0,0135	0,5	0,079	1	0,0011	0,008	0,0074	0,5
2	Территория участка дороги ПК 250	ГОСТ 12.1.005-88, СТ РК 2.302-2014, МВН-4215-004А-56591409-2012, МН-4215-013-56591409-2010	-11	767	СВ	2	71	0,836	5,0	0,0119	0,4	0,0081	0,2	0,0127	0,5	0,091	1	0,0010	0,008	0,0081	0,5

Протокол распространяется только на образцы, подвергнутые испытаниям



Исполнители:

Сарсеналиев М.
Ф.И.О.

Руководитель ИЛ:

Соболев Д.
Ф.И.О.

МП

СД
подпись

Частичная перепечатка протокола испытаний без разрешения ТОО «ЭкоНорматив» запрещена

Appendix 7

Environmental Monitoring Checklist

Lot 6 site inspection checklist		
Site visiting date: 21.12.2020 Time: 15:00	Engineer's Representative: Environmental specialist Imbarova Sara Contractor's Representative: Zhantokova G.– Environmental specialist Safety and Road Safety specialists	Engineer's ref. No. Contractor's ref. No.
Weather condition: clear, -19 C°		
Work is in progress:	Winter maintenance, filling road by sand, removing ice on the site	
Issues related to environment	Possible reasons	Proposed mitigation measures
To eliminate a local contamination within the temporary storage of waste oil.	Tank damage	To fill to another tank, to remove contaminated soil, to control the territory by the environmental specialist

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
Contractor's base camp						
1	Septic tanks are installed and cleaned according to approved procedures	✓				
2	All effluents flow to septic tanks or to reservoirs for construction water	✓				
3	All hazardous liquids are collected on non-permeable facilities at designated area	✓		✓		Places were defined
4	Solid hazardous materials are stored on designated safe places at work areas	✓				

Semi-Annual Environmental Monitoring Report for the 2nd half of 2020
 CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
 (section km 330-504)

No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
5	Effluents are collected in drain system and disposed by the Contractor					
6	All vehicle drive in and out the base camp are controlled	✓		✓		Safety specialist and mechanic are controlling this work
7	Local communities and organizations are informed about construction schedule and any noisy activities on a regular basis through workers and by other activities	✓		✓		
8	Open containers for material storage are covered with canvas	✓		✓		Place was chosen for storage with the further disposal
9	Open fire is prohibited	✓		✓		No open fire neither on site nor base camp
10	Fire-fighting equipment <ul style="list-style-type: none"> ▪ Sand bucket and shovel ▪ Foam fire extinguisher ▪ Fire blanket in the canteen 	✓		✓		
11	Entering of strangers to base camp is prohibited by installing fencing and security	✓		✓		There is a security man and checkpoint at the base camp entrance
12	All employees provided with personal protective equipment (PPE)	✓		✓		Not all employees provided
13	Smoking is prohibited except smoking places	✓		✓		There are smoking places on base camp territory
14	Relevant road signs and warning signs are installed on site and at unsafe areas	✓		✓		Road Safety Plan is proceeded
15	Drinking water is provided by commercial and licensed sources for all employees	✓		✓		Water allowance according to the recommendation of

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
						medical worker
16	Safety clothes of all employees are washed every day	✓				Safety clothes of employees are washed as necessary
17	All employees are provided with three time meal per day	✓				Local residents have lunch only as they do not work on rotation. It does not breach the Labor Code of the RK.
18	Canteen with sanitary and hygienic conditions on camp	✓				
19	Medical facility and first aid kit on camp and on work areas	✓		✓		First aid kits are replenished as necessary. Logbook for medical facility visit is maintained
20	All employees health is under control of base camp doctor, and appropriate services are provided, also a monthly health checks	✓		✓		Daily pre-work check-up of employees are arranged in medical facility and logbooks for daily health check-up (body temperature, sobriety test, blood pressure etc.) are maintained.
21	All territory are clean, there is no any waste, except special places for waste disposal		✓	✓		
22	Provision of rest area on camp	✓				
23	Child labour (younger than 15 year)	✓				Not observed
Production site						
1	Liquid wastes from Asphalt Plant are stored in a tank and disposed by vacuum vehicle Liman ≤MTTSTH≥		✓	✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
2	Solid wastes from Asphalt Plant are stored at designated area and disposed per approved procedures	✓				Plants are installed
3	The plant area is covered by gravel in order to reduce a dusting	✓		✓		
4	The plant area is watered in order to reduce a dusting	✓		✓		During overdusting period and according to dust control schedule
5	Plant can not discharge effluents to any area; non-permeable concrete basins will be constructed for such purpose	✓		✓		Permanent control by the Contractor's environmental specialist
6	All employees of Asphalt concrete and Crusher Plants are supplied with dust masks	✓		✓		In the HSP
7	All employees at Asphalt Plants are wearing dust masks	✓				Coveralls are provided
8	Sand and crushed stone for concrete and asphalt are stored on wet and covered place	✓				
9	There is a fire fighting equipment in Asphalt Plant	✓		✓		It is provided by the EMP and Fire Safety
10	Plant or equipment with high vibration are installed properly, maintained and operated correctly	✓		✓		
Fuel station						
1	Oil filling will be strictly controlled and is permitted only at the fuel filling station and on workshop area	✓		✓		
2	Fuel tank storage area is fenced and it is a non-permeable, tank's roof is closed	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
3	Fuel station, which provided with fire fighting equipment, is checked every week	✓		✓		
4	There is the warning signs at fuel station	✓			✓	
5	Fuel station is provided with wastebasket	✓				
Contractor's Workshop and Car Wash						
1	Liquid hazardous materials are stored in designated area at the workshop		✓	✓		Arranged a special concreted areas to keep a hazardous materials and installed a fence
2	Solid hazardous materials are stored in designated area at the workshop	✓		✓		
3	There are containers for used oils and hydraulic liquids	✓		✓		
4	Used oil products are collected in concrete tank with a volume up to 110% and tank is cleaned according to approved procedures		✓	✓		
5	Workshop is provided with drainage system		✓	✓		Not necessary
6	Every vehicle is inspected and maintained on a regular basis	✓		✓		To strengthen daily control of special equipment
7	All construction vehicles meet Euro standards and are equipped with modern noise control equipment		✓	✓		
8	Noise control equipment of all vehicles is maintained and checked as per the approved procedures	✓		✓		
9	All workshop workers are provided with welding equipment and	✓		✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
	personal protective equipment					
10	All construction water is collected in concrete tank and cleaned as per the approved procedures	✓		✓		
Project Road						
1	All roads, where planed construction works, are watered by water trucks	✓		✓		To increase watering frequency and water truck number during rain-free period and to take special control the sites near to villages
2	There are structures for passage of cattle, sheep and other animals on appropriate places of the project road		✓		✓	
3	Culvert and bridge construction areas are provided with safety ribbons and wringing signs	✓				
4	Fencing and checkpoint are installed at all work areas where necessary	✓			✓	
5	Waste storage for any kind as well as machinery or vehicles parking is not permitted within a distance of 100m from any facility (including drainage or irrigation facilities)	✓		✓		
6	All appropriate road signs and warning signs are provided on work sites and unsafe areas	✓		✓		
7	Construction vehicle and plants are maintained properly to reduce gas emissions	✓		✓		To strengthen control over special equipment
8	Noise control measures at special areas	✓		✓		
Borrow pits						

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
1	Temporary drainage is provided at borrow pits and quarries			✓		
2	Construction work is stopped between 10.00 p.m. and 6.00 a.m. at 200m from the nearest habitation			✓		There is no any close village
3	Stockpiles do not exceed 3m in height			✓		
4	All vehicles with an open body are used for transportation of materials with possible dusting, designed for these purposes with a well-chosen convertible body	✓		✓		
5	During construction works all noise volume is reduced according to the national standards	✓		✓		
6	Materials with possible dusting are not loaded higher than convertible body level and covered with clean canvas	✓		✓		Operators and recorders monitor the level of soil loading
7	All vehicles, equipment and plant meet Euro standards for exhaust gas emissions		✓	✓		
8	All temporary acquired land is rehabilitated		✓			Upon completion of construction works
9	All material residues and contaminated sites are collected and disposed accordance with approved procedures	✓		✓		
10	Watering is provided during material delivery and processing	✓		✓		As necessary
11	Any adjacent areas are damaged due to spoil ground, restored to its original state			✓		

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No	Environmental safeguard measures	Executed		In process		Comments
		Yes	No	Yes	No	
12	River banks are protected from materials or temporary stockpiles of the contractor	✓		✓		
13	Negative effects or violations due to construction works are controlled with permissible level according to standards	✓				
14	Access roads to borrow pits, and also borrow pits, quarries and traffic operations are maintained by approved standards	✓		✓		
15	Water discharge and removal, avoiding flooding or damaging to other works or service causing erosion	✓				
Flora and Fauna						
1	Trees and shrubs outside of construction site, but on road reserve are generally preserved from damages					There are no trees on construction site territory
2	Ancient trees have not cut during construction works					There are no ancient trees on construction site territory
3	Cutting off has not taken place without the prior permission of relevant local authorities					No trees
4	Trees or shrubs cut or removed only if they interfere for necessary temporary or permanent works					No trees
5	Construction works are stopped on bridge sites during harvest period (indicate yes or no to construction activities, indicate date)		✓			Bridge construction does not affect to cultivation and harvesting, because they are located on far places

[illegible]

Materials of training on COVID-19 risks

Консультанты по надзору за строительством:



«DONGSUNG ENGINEERING» Корея

ТОО «ZS Engineering» Республика Казахстан

[РК] Республика Казахстан
ЦАРЭС Коридоры 1 и 6 Проект Реконструкции
Автомобильной дороги «Актобе-Макат» (Участок км 330-504)

Тренинг на тему: "Управление рисками связанные с COVID 19 на проектах дорожного строительства"

Во время пандемии COVID-19 у каждого человека должны быть необходимые средства для защиты от ВИЧ. Права человека — краеугольный камень профилактики ВИЧ и должны стать таковым и в борьбе с COVID-19». необходимо обеспечить должный уровень услуг профилактики, защиты и поддержки по вопросам гендерного и сексуального насилия.

На фоне пандемии COVID-19 Объединенная программа Организации Объединенных Наций по вич/спиду (ЮНЭЙДС) призывает страны не сокращать усилия, направляемые на профилактику ВИЧ, и позаботиться о том, чтобы у людей сохранялся доступ к услугам, которые помогут им защититься от ВИЧ, избежать дискриминации и насилия, а также обеспечат соблюдение их прав, касающихся сексуального и репродуктивного здоровья.

Риск — это возможность возникновения неблагоприятной ситуации или неудачного исхода производственно-хозяйственной или какой-либо другой деятельности.

- Риски являются частью нашей повседневной жизни.
- Риски для организаций могут проявляться во многих формах — от финансовых потерь до потери репутации.
- Некоторые риски являются случайными и непредвиденными, в то время как другие можно предвидеть и планировать.
- принимать во внимание риски, под которыми будем понимать все то плохое, что может случиться, и строить планы с их учетом.
- Что такое управление рисками?
"Систематизированный процесс идентификации и анализа рисков, а также определения стратегий реагирования" Управление рисками — это процесс выявления, анализа и работы по снижению рисков, где это возможно.



Процесс определения риска

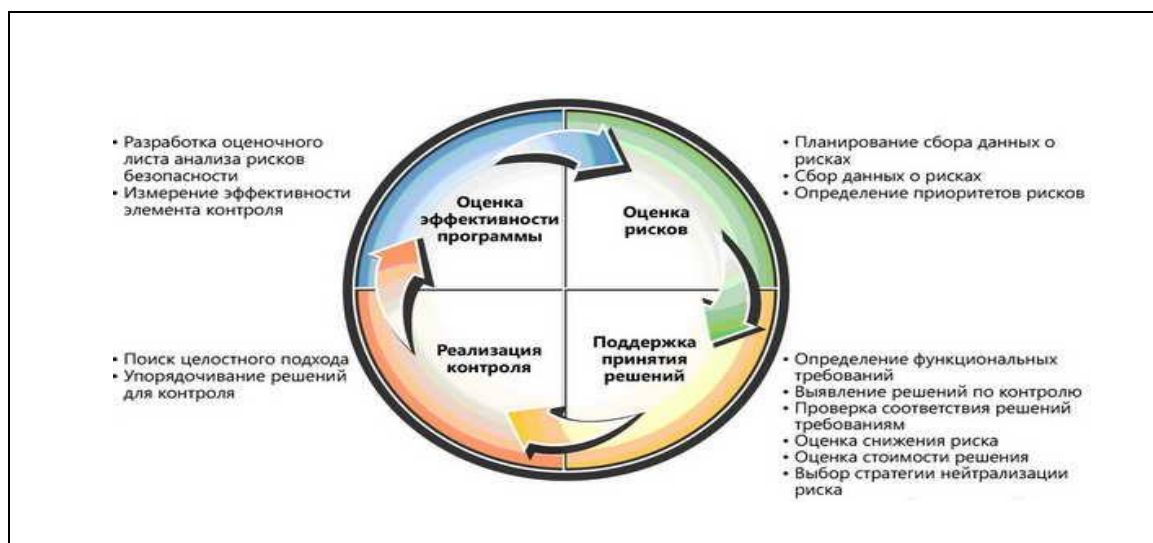


Для профилактики и предотвращения отрицательных событий на производствах, используется теория управления риском. Она нацелена на избежание различных ЧП и позволяет проанализировать правильность выполнения всех требований не только по охране труда, но также гражданской обороне, пожарной и промышленной безопасности и т.д..



Процесс менеджмента риска

- представляет собой набор действий, направленных на своевременное выявление, анализ и предотвращение или минимизацию последствий реализации опасных событий для организаций и включает:
 - идентификацию риска;
 - анализ и оценку риска;
 - реагирование на риск;
 - отчетность и мониторинг;



1. Идентификация риска Выявление опасных событий направлено на определение внутренних или внешних событий, которые в случае реализации могут негативно повлиять на достижение целей организации малого и среднего бизнеса. В процессе идентификации риска необходимо определить наиболее существенные события, которые могут нанести финансовые потери или ущерб репутации организации.

2. Анализ и оценка рисков После того, как основные риски идентифицированы, их необходимо проанализировать и оценить для определения наиболее существенных рисков, тех рисков, которые впоследствии руководство организации будет обрабатывать. Для организаций малого и среднего бизнеса, обладающих ограниченными ресурсами важно определить перечень рисков, которые потребуют ресурсы для обработки в первую очередь.

		Последствия вреда		
		Низкая	Средняя	Высокая
Вероятность	Низкая	Незначительный риск	Незначительный риск	Серьезный риск
	Средняя	Незначительный риск	Серьезный риск	Неприемлемый риск
	Высокая	Серьезный риск	Неприемлемый риск	Неприемлемый риск

3. Реагирование на риск Существует четыре способа обработки риска, которые могут быть применены для организаций :

а) Отказ от риска Полный или частичный отказ от ведения деятельности, сопряженной с риском. Такой подход полностью устраняет риск, но также означает полный отказ деятельности. Выбор данного способа является наиболее эффективным с точки зрения обработки риска, однако может быть не всегда целесообразен с точки зрения максимизации прибыли организации.

б) Снижение риска Снижение риска подразумевает разработку и внедрение мероприятий, направленных либо на предотвращение опасного события (т. е. полное или частичное устранение причин реализации риска), либо на уменьшение его последствий (т. е. снижение финансовых или последствий для репутации от реализации риска).

в) Передача трансфер риска Передача или частичная передача риска другой стороне (например, путем заключения договоров страхования, хеджирования, аутсорсинга и др.), позволяющая уменьшить негативное влияние рисков на достижение целей. При этом необходимо учитывать, что некоторые риски, например риск для репутации, не всегда возможно перенести.

г) Принятие риска Организация допускает возможное наступление неблагоприятных последствий риска, при этом определены конкретные источники покрытия ущерба от таких последствий.

4. Отчетность и мониторинг Отчетность о рисках организации играет важную роль в обмене информацией с заинтересованными сторонами. Отчетность о рисках с учетом следующих принципов:

- ❖ включать описание целей и подходов системы менеджмента риска, в том числе описание и регулярность процедур по идентификации, оценке и обработке риска; - отчетность должна включать информацию о наиболее существенных рисках, например в формате матрицы рисков организации;
- ❖ включать четкое определение ответственности за менеджмент для наиболее существенных рисков,
- ❖ включать описание мероприятий по обработке наиболее существенных рисков и оценку их эффективности;
- ❖ включать описание мер, могут быть использованы матрицы риска (с небольшим пояснением, подготовленным в соответствии с принципами, представленными выше) и реестр риска.
- ❖ При необходимости отчетность о рисках может быть дополнена другой информацией в соответствии с запросом пользователей отчетности.

Пример реестра риска организации

Описание риска и возможных последствий	Возможный ущерб	Вероятность	Уровень риска	Мероприятия по обработке риска	Ответственный и сроки

Процесс планирования управления рисками

- Определяет уровень, тип и операции по управлению рисками
- Обеспечивает соответствие деятельности по управлению рисками:
 - ❖ самому риску;
 - ❖ значению проекта для организации
- Позволяет выделить достаточное количество времени и ресурсов для выполнения операций по управлению рисками и определить общее основание для оценки рисков.

Там, где опасность COVID-19 не удается устранить, наиболее эффективными средствами контроля, является **инженерный контроль**, затем **административный контроль** и наконец, **средства личной защиты**.

Инженерный контроль предусматривает изолирование работников от опасностей, связанных с работой, не полагаясь на поведение работников, и может быть наиболее экономичным решением.

Административный контроль — это изменения в рабочей политике или процедурах, которые требуют действия работника или работодателя.

Средства личной защиты (СЛЗ) считаются менее эффективными, чем инженерный и административный контроль, но могут помочь предотвратить некоторые угрозы. Все типы СЛЗ должны выбираться с учетом: опасности для работника, надлежащим образом установленного (например, респираторы) последовательного и правильного ношения; регулярной проверки; замены при необходимости очистки, хранения или утилизации во избежание дальнейшего загрязнения

Основные меры профилактики инфекций, рекомендуемые для всех рабочих мест, включают:

- частое и тщательное мытье рук;
- призывание работников оставаться дома по болезни,
- респираторный этикет, включающий прикрытие кашля и чихания,
- предоставление салфеток и корзин для мусора,
- подготовку к удаленной работе или, по возможности, сменной работе;
- запрет на использование чужих вещей,
- поддержание регулярной чистки и дезинфекции рабочей среды.
- Оперативная идентификация и изоляция потенциально заразных людей является важным шагом в защите работников, клиентов, посетителей и других лиц на рабочем месте!
- рекомендуется, чтобы сотрудники с симптомами острого респираторного заболевания оставались дома до тех пор, пока у них не будет жара, признаков лихорадки и любых других симптомов на протяжении 24 часов без использования жаропонижающих или других лекарств, изменяющих симптомы, а также того, что политика отпусков по болезни является гибкой, позволит работникам оставаться дома, чтобы ухаживать за больным членом семьи, и что сотрудники знают об этой политике
- Существуют также психосоциальные риски возникающие в результате беспокойства или стресса, вызванного опасениями по поводу заражения COVID-19, болезнью или смертью родственника или друга, изменениями в рабочих режимах, а также финансовыми или межличностными трудностями, возникающими в результате пандемии. Меры социального дистанцирования могут предотвратить типичные защитные механизмы, такие как личное пространство или разделение проблем с другими. Контроль за этими рисками включает в себя менеджеров, проверяющих работников, чтобы спросить, как они, облегчая взаимодействие с работниками, и формальные услуги для помощи работникам, коучинг или гигиены труда.

Appendix 10

Site photos



PK 136+00, KM 346+60. Lot 4. Medical facility



PK 136+00, KM 346+60. Lot 4.
PPE of medical facility



Lot 5. Quartz treatment of facilities within construction camp on
KM 378



Lot 5. Medical facility in construction camp. KM 378



Lot 6. Supply state of medical facility. PK 156+00 KM 435.
Zhamansor base camp



Lot 6. Information board in medical facility. PK 156+00 KM 435.
Zhamansor base camp

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Dust control on Lot 5 site. Mukur village
 KM 378 / PK 85



Lot 4. Instrumental measurement. 6.11.2020
 at KM 330



Placement of tyres on the production base.
 Lot 4 PK 136+00



Lot 6, Sanitary treatment of facilities, construction
 camp Zhamansor at PK 156 / KM 435



Winter maintenance of road, safety activities
 on Lot 5 site. Mukur village KM 378 / PK 85



Sand filling on ice cover on Lot 6 site. KM 442

CONSTRUCTION SITE INCIDENT LEADING TO FATALITY

Loan No.3416-KAZ

1. **Background.** Lot 4 km 330-370, construction commencement date is 08.01.2019 and ending is 26.08.2021. The Subcontractor “Kazkomservice” LLP has mobilized at PK 222 since August 2019. The scope of works is road reconstruction from PK 200 to PK 250. The Site Manager Mr. Khachatryan Martun, born on 21.03.1968, arrived in Kazakhstan in August 2020 from the Republic of Armenia. After a quarantine period, he came to Aktobe-Makat road reconstruction project in September. Khachatryan Martun passed an introductory training in August at the head office of “Kazkomservice” LLP in Kulsary city. Upon arrival on the site in September Khachatryan Martun passed again the introductory health and safety training at the workplace.

A. Description of the incident

2. **Details of the accident.** On October 3, 2020 at PK 226 while paving the layer of crushed stone-sand mix reinforced by cement, the roller (GRW) started backing up after a short stop. The movement was accompanied by a signal alarm, having previously ensured its safety. But the site manager Khachatryan Martun stood (he was talking with mobile phone) at the “blind area” (area not visible for a driver from his cabin) and the roller ran over him with one axle. An ambulance was immediately called to the incident site. The injured person was taken to the hospital in Sagiz village. Without regaining consciousness, Khachatryan Martun died.

3. **Supervision consultant.** DONGSUNG ENGINEERING CO., LTD. Seoul, Korea / ZS ENGINEERING LLP Nur-Sultan, Kazakhstan

4. **Chronology of events.** On October 3, 2020 Egdirov Garifulla, a pneumatic-tired roller operator, born in 1962, received a work order from the foreman before starting his shift. Then he passed all necessary safety, fire and road safety trainings while following the work order. On October 3, 2020, the site manager Khachatryan Martun passed a daily health and safety training.

At 17:30, while paving the layer of crushed stone-sand mix reinforced by cement to construct the main “Aktobe-Makat” road (km 353, Lot 4, PK 226+00, “Kazkomservice” LLP), operator of pneumatic-tired roller GRV-18 Egdirov Garifulla ran over the site manager Khachatryan Martun. At 17:32 an ambulance was immediately called, the Contractor’s (Shanghai) Health and Safety Engineer and the CSC were notified. The medical workers arrived 10 minutes later. The injury was nonsurvivable. The man died without regaining consciousness.

5. Main factors leading to the fatality.

- Ignoring rules at dangerous sites;
- Violation of vehicle operating instructions, failure to ensure safe movement and ignoring “blind area” of visibility.

B. Response

6. **Police investigation.** An investigation into the incident cause was opened. A criminal

case was initiated under the article 345 part 3 of the Criminal Code of the Republic of Kazakhstan. It was closed under the Criminal Procedure Code of RK Article 35. Circumstances excluding proceedings:

- 1) absence of case of criminal offense;
- 2) absence of crime in the act;

7. **Emergency site meeting.** On 5.10.2020, the CSC Dongsung Engineering organized an emergency meeting with specialists and management of Contractor “Shanghai Construction” and Subcontractor “Kazkomservice” LLP. The purpose of the meeting was to discuss the corrective action plan in response to the incident. The following resolutions were adopted: to provide additional safety trainings to all contractor employees, and to arrange road safety trainings for drivers and operators during the autumn-winter period.

Resolutions regarding the victims:

- It was facilitated to transfer of body to home location;

Resolutions to prevent future accidents:

- To strengthen control on safe working with special machinery and equipment throughout the site;
- To ensure road safety in the autumn-winter period by road maintenance, inspection and monitoring of the situation in all sites;
- To hang out phone numbers of Safety and Road Safety Engineers in all crowded areas within the camp and workshops;
- To control by medical staff during medical check-up and monitor overall health condition of drivers to avoid overwork and other activities;

8. **Compensation.** The relatives of victim received Insurance payments as the employer had included this type of insurance when hiring the foreign employee.

9. **Meetings with ADB, Implementing Agency, Supervision Consultants, and Contractor.**

10. **Health and safety mission and corrective actions**

The Contractor and Subcontractor arranged unscheduled health and safety trainings on the incident.

C. Project’s occupational health and safety practices

Saken Abdulkhasymov has been appointed as the Contractor's Health and Safety Engineer, who has been working on the project since 2019. He arranges H&S trainings, the recording and signatures of employees are registered in the training logbook (copy attached), the frequency of training is once a quarter. “Kazkomservice” LLP has 1 Safety Engineer. He arranges daily H&S trainings jointly with the Chief Engineer. Prior to the shift, all employees pass an introductory safety training, where attend the managers of “Kazkomservice” LLP and H&S Engineer of “Shanghai Construction Group Co., Ltd”. There are fire safety training logbook, personal protective equipment logbook and drivers' pre-shift check-up logbook.

11. **Prior fatality incident.** No

12. **Work site protocols for the activity.** The Contractor “Shanghai Construction Co., Ltd. Kazakhstan branch” has the Environmental Management Plan (EMP). As part of the EMP, there is the Health and Safety Plan that specifies the main activities to upgrade (improve)

work processes, equipment, lifting machineries and devices, vehicles, tools and other construction facilities. The relevant duties and timetables have been developed for all positions on the site.

13. **OHS compliance monitoring.** The Contractor's documents and works are checked weekly by the H&S Specialist and Road Safety Engineer of the CSC. The monitoring is guided by the Order of the Minister of Health and Social Development of Kazakhstan No.1019 dated 25 December 2015. The compliance of labour safety systems is monitored in accordance with GOST 12.0.004-90. Safety and road safety information is collected and distributed to contractors on a monthly basis.

14. ADB undertakes comprehensive project review missions, including site inspections and periodically monitors project sites. ADB also supports training for contractors, consultants and implementing agency staff on EMP compliance. When incidents of noncompliance are identified, ADB meets with contractors and implementing agency staff to agree on corrective measures. The last offline mission was held on September 19, 2019. The last online mission was held on March 1, 2021.

15. **Trainings** was organized and conducted on October 13, 2020 at the base camp of "Shanghai Construction Group Co., Ltd". There were 67 participants. Training sessions: work safety, identification of adverse factors on the road, special equipment operation, discussion of incidents. (photo report and minutes attached).

D. Corrective actions taken

16. The following outlines the primary corrective actions that have been taken:

- All construction activities under Lot 4 (PK 200 – PK 250) was immediately halted after the incident. Work resumed on October 5, 2020;
- Insurance payments provided to the victim's family in the Republic of Armenia. Due to military activities between Azerbaijan and Armenia, it has not been possible to determine the exact amount paid the Armenian insurance company. The contact details are not mentioned in the victim's personal file;
- Supervision consultant "Dongsung Engineering" will scale up supervision of activities on the site and carry out daily inspection;
- If the Contractor's H&S and Road Safety specialists are not on site, the supervision consultants will immediately issue an instruction to stop work until the specialist comes on site.

E. Conclusion, lessons learned and recommendations

- I. This incident has serious reputational risks for both the Employer and the funding agency;
- II. Documents and work of the H&S and Road Safety specialists of the contractor and subcontractor are assessed as acceptable and comply with the requirements of RK legislation for safety at the workplace;
- III. Work discipline should be improved in terms of responsibility for all activities and strict compliance with regulations, requirements and instructions;
- IV. To conduct safety and road safety trainings every 2 months in compliance with sanitary and epidemiological requirements;
- V. To strengthen control over execution of works especially in sections where special equipment is mobilized. To check permits of the drivers of special equipment;

Abdulkhasymov Saken

Health and Safety Engineer

Shanghai Construction Group Co., Ltd. Kazakhstan Branch

List of Attachments

Appendix 12

to the Description of the incident

Shanghai Construction Group Co., Ltd. Kazakhstan Branch

Ref. No. SCG-AR-KAZ-407 dated 05.10.2020

To the Team Leader of
Construction Supervision Consultant
“Dongsung Engineering”
Kim Duke Min

On 03.10.2020 about 5.30 pm while paving the layer of crushed stone-sand mix reinforced by cement to construct base course of “Aktobe-Makat” road (km 353, Lot 4, PK 226+00, company “Kazkomservice” LLP), operator of pneumatic-tired roller GRW-18 Yegdirov Garifolla, born in 1962, by negligence ran over the Site Manager Khachatryan Martun, born in 1968 (a citizen of the Republic of Armenia). His injury was nonsurvivable. According to witnesses, operator Yegdirov Garifolla when moving back did not see the Site Manager Khachatryan Martun, who stand in the back and was speaking by the phone. An expert examination was commissioned and an investigation is being conducted by the police department of Kyzylkoga district of Atyrau region.

“Kazkomservice” LLP employees Khachatryan M. and Yegdirov G. passed safety and road safety trainings during the road construction in June and in October of this year.

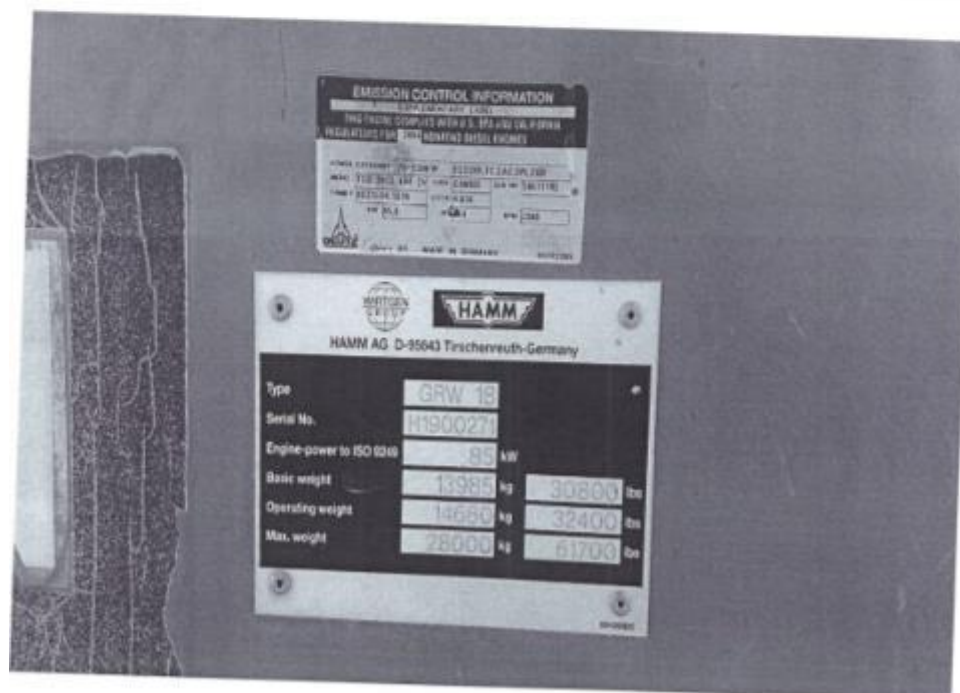
We also additionally inform you that the management of Company Shanghai Construction Group Co., Ltd. in Kazakhstan conducted with engineering staff (engineers, site managers, masters, foremen) additional unscheduled meeting related to safety and road safety issues during the road construction in order to avoid similar incidents.

Photo is attached.

Project Manager

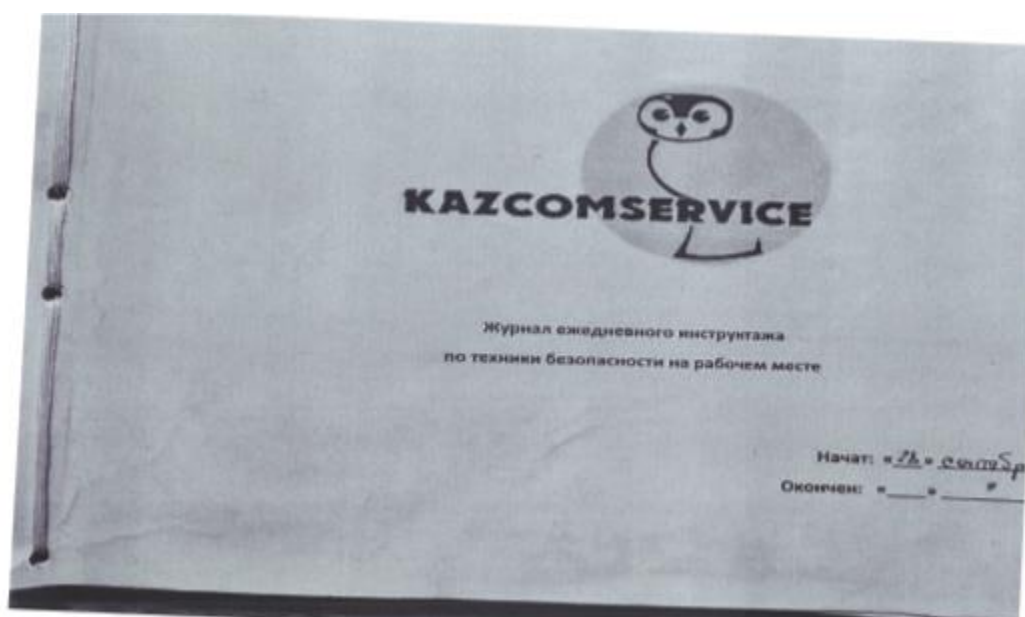
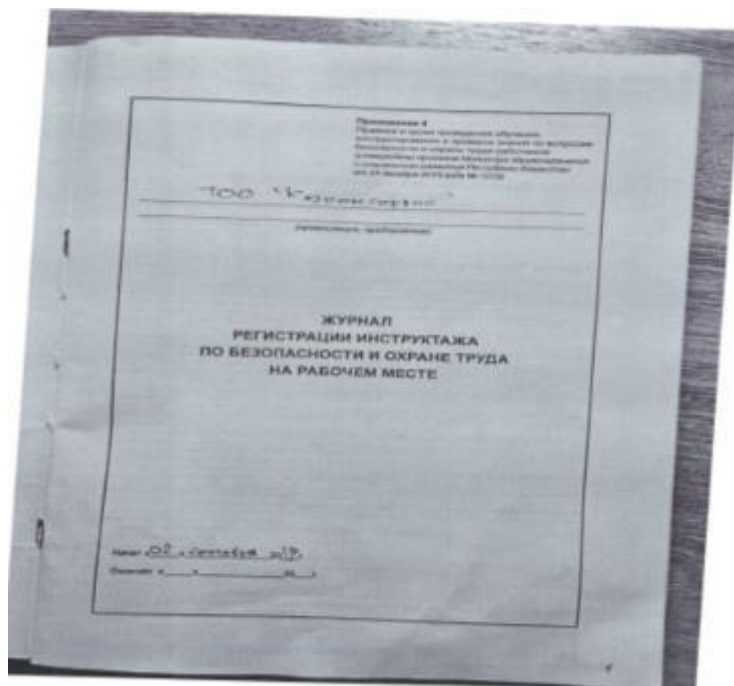
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Yang Bin



Special equipment – Roller GRW-18

Semi-Annual Environmental Monitoring Report for the 2nd half of 2020
CAREC Corridors 1 and 6 Connector Road (Aktobe-Makat) Reconstruction Project
(section km 330-504)



Title sheets of training logbooks for employees of subcontractor
"Kazkomservice" LLP



Emergency meeting related to fatal incident, Lot 4 office, date - 5.10.2020

Shanghai Construction Group Co., Ltd. Kazakhstan Branch

Minutes No.3

dated 13.10.2020

Time started 8.15 completed 9.00 (45 minutes)

7 pages

Training subject:

1. Traffic safety during autumn-winter period.

(Freeze, puddle, unexpected ice, heavy rain, oil stains, artificial structures)

*2. Road condition, features of movement and driving the vehicle during sliding, fog, heavy rain and winter season, a sharp change of weather condition, **temperature +1 C and -1 C (consequences, sudden ice)***

*3. Traffic safety and follow the traffic and safety rules, driving the vehicle, road works in accordance with H&S regulations, during winter period (ice, snow coat, humidity, fog, wet snow, long descents, road narrowing, not strengthened shoulders, slippery pavement, narrow bridge, side distance, failure to meet distance – **reasons of overturning and going down from the road**)*

4. Plan for preparing vehicles for autumn-winter conditions. Brake system. Mechanisms and emergency equipment of vehicle

*5. Briefings, discussion, examples, incidents in other organizations, exchange of opinions (**Tengiz base camp, use of gadgets, headphones and interference.**)*

6. Anti-terrorist measures on the road in case of emergency (fuel trucks, water trucks)

*7. Methods for determining sites where took place the most of road accidents and their solution in order to reduce accidents on the road. Chose the optimal speed, movement and turns in case of sudden obstacles, sudden turn. Long straight sections more than 10-15 km (**reduce vigilance and control over tools and speed**)*

*8. How to identify and characteristics of road section with a high accident rate (**wet asphalt, grip of tires with pavement surface, shoulders, spreading of gravel, zigzag, narrowing of road, highway speed**)*

*9. Tired, monotonous landscape, visibility, fog, drowsiness, light in the dark, optimal illusion, sun glare, loss of vehicle speed, orientation on a flat – **the main causes of accidents and road accidents.***

*10. Operation of crane, loader, grader, excavator, dump truck, soil feature, activities within borrow pit, pursuant to H&S requirements, machinery work, **traffic controller's job, blind area of visibility, safe area, dangerous are, dust, dust control, dust decrease, limit 20 km.***

Participated – 67 people:

- | | | |
|----|--|-----------------------------|
| 1. | <i>Engineer
Shanghai Construction Group Co., Ltd. Kazakhstan
branch</i> | <i>Chi Sau Dong</i> |
| 2. | <i>Road Safety Engineer of the project
Shanghai Construction Group Co., Ltd. Kazakhstan
branch</i> | <i>S.Buranov</i> |
| 3. | <i>Translator</i> | <i>A.Nygiyev</i> |
| 4. | <i>Deputy Resident Engineer
ZS ENGINEERING LLP</i> | <i>Y.Rakhiyev</i> |
| 5. | <i>Drivers, operators, traffic controllers, other employees</i> | <i>62 people</i> |
| 6. | <i>Project Manager Assistant
Kazkomservice LLP</i> | <i>T.Unusov</i> |
| 7. | <i>Road Safety, H&S Engineer
SHAM LLP</i> | <i>D.Kushtibayev</i> |
| 8. | <i>Engineer
Altyn kopir LLP</i> | <i>Zh.Zhuman</i> |

At the beginning of the training, information and a presentation material, video, lecture on road safety during autumn-winter period, road pavement condition were listened and shown. Road safety engineer S.Buranov read a lecture, 10 items of training were announced. Features of movement and driving the vehicle in adverse weather condition, in case of sliding, fog, heavy rain and in winter season, with examples of tire grip with asphalt, road safety features, technical problems of brake system.

A report on H&S, Control and instruction to execute work (loading and unloading, slinger's job, load strengthening) during autumn-winter period. The report was prepared by H&S engineer Abulkhasymov S.

Drivers, operators, H&S and road safety engineers told example of incidents that occurred when violating traffic and road safety rules from their experiences, from previous jobs, in particular in Tengiz projects.

According to the plan, 10 issues were discussed, Road safety engineer of project made examples of tasks and solutions for ten issues, focusing separately the attention of participants on the activities and features of driving the vehicle during autumn-winter period, explanatory work was carried out on all 10 items. Questions and Answers. Technical Tasks related to road safety, traffic and safety rules. Tests. Briefing and discussion.

On all 10 issues, discussions were held, reasons and causes of accidents and incidents on the road were detailed, features of movement and driving the vehicle were announced, control over the execution of road work in accordance with specifications and requirements of safety, in such weather conditions.

The result of training is satisfactory.

1. It was decided to appoint a crew leader Baimuratov Rakhmetolla among the experienced drivers, to define his vehicle as “technical support” with additional equipment such as rigid steel cables, 2nd jack, flashlights, mobile phone communication, stop signs and to assign the crew leader control during work and at the same time jointly with Road safety engineer control the execution of road safety, traffic and safety requirements. And same thing with other executors of project.

2. To arrange a training on a monthly basis.

3. The month October announced as the safety month, without any violations, “Safe tire” with application of penalty scores and sanctions.

Qualified Commission Members:

<i>Engineer of Shanghai Construction</i>	<i>Chi Sau Dong</i>	<i>//signature//</i>
<i>Road Safety Engineer</i>	<i>S.Buranov</i>	<i>//signature//</i>
<i>Translator</i>	<i>A.Nygiyev</i>	<i>//signature//</i>
<i>ZS ENGINEERING LLP</i>	<i>Y.Rakhiyev</i>	<i>//signature//</i>

Tested:

<i>Drivers, operators, traffic controllers, other employees</i>	<i>62 people</i>
---	-------------------------

*Project Manager Assistant
Kazkomservice LLP*

T.Unusov

//signature//

*Road Safety, H&S Engineer
SHAM LLP*

D.Kushtibayev

//signature//

Engineer of Altyn kopir LLP

Zh.Zhuman

//signature//



Picture 1. Training organizers

Photos of safety training made by the Contractor Lot 4



Picture 5. Three golden rules of Road Safety



Picture 6. Explanation of oversize load security



Picture 7. Load security, slinger, rigger



Picture 8. Briefing, discussion, exchange of opinions