



**REPUBLIC OF KAZAKHSTAN
MINISTRY OF INVESTMENT AND DEVELOPMENT
COMMITTEE FOR ROADS**

**ENVIRONMENTAL MANAGEMENT PLAN
OTAR-UZYNAGASH ROAD SECTION
(KM 63 – KM 162)**

Final Draft

**FINANCED BY THE INTERNATIONAL BANK FOR RECONSTRUCTION
AND DEVELOPMENT AND THE REPUBLIC OF KAZAKHSTAN**

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ABBREVIATIONS

Akimat	Regional body of executive branch in Kazakhstan
CfR	Committee for Roads (of MoID)
PIU	Project Implementation Unit
DE	Design Engineer
ESS	Environment and Social Sphere
EMPF	Environmental Management Plan Framework
EMP	Environmental Management Plan
ESIA	Environmental and Social Impact Assessment
FS	Feasibility Study
H&S	Health & Safety
HGV	Heavy goods vehicle
ME RK	Ministry of Energy of the Republic of Kazakhstan
CEMCSI	Committee for environmental management, control and state inspectorate
MOID	Ministry of Investment and Development
IBRD	International Bank for Reconstruction and Development
PAP	Project Affected Person
HCH	Historical Cultural Heritage
PMC	Project Management Consultant
MP	Monitoring Plan
RK	Republic of Kazakhstan
RPF	Resettlement Policy Framework
SEE	State Environmental Expertise
SoW	Scope of Work
WB	World Bank

1. INTRODUCTION

The overall length of the «Uzynagash-Otar» road section considered for World Bank financing under the current restructuring of the SWRP project is 95,376 km, which will be partially reconstruction within the existing right-of-way with new construction of two relevant bypasses. This road section (63-162 km) is a portion of the existing Astana-Almaty road corridor located in the Almaty oblast (80 km) and in Kordai district of the Zhambyl oblast (16 km) as it passes through various reliefs, types of land use and (micro) climatic zones.

In August, 2014, the Government of RK requested the World Bank to finance Otar-Uzynagash road section of 95,376 km length, which is a part of the Western Europe - Western China Corridor in order to:

- Reduce vehicle-operating costs;
- Reduce travel times;
- Provide greater access to markets and job opportunities;
- Increasing economic opportunities; etc.

In accordance with the requirements of the legislation of the Republic of Kazakhstan an Environmental and Social Impact Assessment (ESIA) has been prepared. This ESIA report development was conducted in accordance with the provisions of the Environmental Code of Republic of Kazakhstan (RK) and other applicable legal and regulatory guidance documents of RK, concerning environmental issues and environmental safety. The content and composition of the ESIA meets the requirements of «Guidelines for the Assessment of Designed Economic and Other Activities on the Environment in Development of Pre-Planning, Planning, Pre-Design and Design Documentation, as approved by the Order No. 204-p of the Minister of Environment of the Republic of Kazakhstan dated June 28, 2007».

In accordance with the World Bank requirements and operational procedures this road corridor section has been defined as Category A and the ESIA has been prepared in accordance with World Bank Operational Policy (Environmental Impact Assessment OP 4.01). Additionally, the road upgrade activities trigger the OP 4.11 on Physical Cultural Resources and the OP 4.04 on Natural Habitats. The works will follow national legislation and requirements as well as the WBG EHS Guidelines. This work has been carried out by «KazdorNII» JSC, in accordance with the agreed Terms of reference from Committee for Roads.

2. PROJECT DESCRIPTION

2.1 GENERAL PROJECT INFORMATION

The «Uzynagash-Otar» road section project with a general extent of 95,376 km, including Samsy village bypass of 17,071 km and Targap village bypass of 10 km, is a part of «Almaty-Kordai-Blagoveschenka-Merke-Tashkent-Termez» road of republican importance, which in its turn will provide communication in the international corridor between Western China and Western Europe. The purpose of the corridor is providing separate road through Western China, Kazakhstan and Russia under any weather conditions. This corridor will increase economic profit, will significantly improve flow of goods, tourists, improve social communication between China and Kazakhstan.

The designed road section from km 63 to km 162 is a part of «Western Europe-Western China» transit corridor. Based on administrative division, 80 km of the designed section passes across the

territory of Zhambyl district of Almaty oblast and 16 km passes across Kordai district of Zhambyl oblast.

In 2006, the following road sections reconstruction has been carried out: 49 km (km 14-63) – Category I (dual carriageway, two lanes in each direction with a dividing strip), and 99 km (km 63-162) – Category II (2-lane, one lane in each direction). The latter section is now proposed to be upgraded to category I with WB financing.



Fig. 2.1-1 – Planimetric Map of «Uzynagash-Otar» Section

2.2 PROJECT SPECIFICATION

Key features of the proposed road section (63 -162 KM) estimated for 24-month construction period include:

- 1) Road category – Ib (in line with national standards);
- 2) Length – 95,376 km;
- 3) Subgrade width – 27,5m;
- 4) Number of traffic lanes – 4;
- 5) Traffic Lane width – 3.75m;
- 6) Dividing strip width – 3 m and 5 m;
- 7) Maximum width of right-of-way – 70 m;
- 8) Maximum estimated speed – 120 km/h;
- 9) Estimated average speed – 80 km/h;
- 10) Multi-level interchanges – 2 units;
- 11) Bridges and overpasses;
- 12) Culverts;
- 13) Type of road pavement and type of pavement – asphalt-concrete.

Construction works include:

- Site clearance and preparation;
- Installation and operation of borrow pits;
- Construction of construction camp, warehouses and workshops
- Construction of subgrade;
- Construction of road pavement;
- Construction of intersection and junctions;
- Construction of transport interchanges in different levels;
- Construction of bridges and overpasses;
- Installation of road signs and guard rails;
- Road marking application;
- Construction of drainage system from carriageway and bridges
- Construction of flanking dike at artificial structures.

The project provides two new bypasses for the settlements of Samsy and Targap. The length of the alignment with straightening will preliminarily constitute 102.801 km (from km 56 to km 158 + 801).

Alignment and bypass for Samsy village will be km 63+000 - 80+398 (the length of the bypass will be 17.071 km); bypass for Targap village will be km 89+705 - 100+000 (the length of the bypass will be 10 km).

2.3 UZYNAGASH – OTAR ROAD SECTION

The section (km 63 - km 162) covered by this EMP document begins to the North-West from Almaty city from Uzynagash village and ends connecting with Kordai bypass in Otar. «Uzynagash-Otar» road section passes through heights, the flat and hilly area. The road has initially northern direction, begins at the height of 765 m, passes the flat ground on Karatorpak narrow, falling to 685 m, then lies to 27 km in a mountainous terrain with several passes with heights to 760 m, the last one goes out to the flowing valley.

Samsy village is located at 13 km and Ungurtas village is located at 18,50 km from the end of the four-lane road, i.e. from 57 km of the road going from Almaty through Uzynagash towards Otar. Between Uzynagash and Otar villages other settlements are located along the road, namely Ulguli, Ungurtas, Targap, Kopa, Degeres, Beriktas.

During the field researches which were carried out on October 22, 2014 all detailed features of the existing road were studied and analysed, including the offered bypasses of Samsy and Targap villages. On the enclosed drawings the offered bypasses are specified, which will improve the road highway, road safety, will reduce quantity of road accidents, and also will reduce the extent of the road and will provide possibility of future expansion of settlements, which are not located far from them in order to avoid negative impact of bypasses.

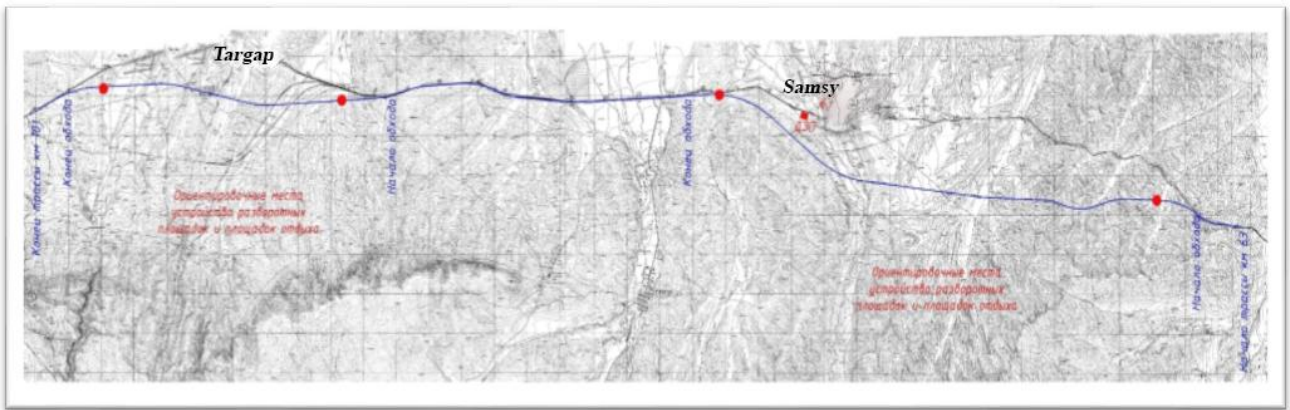


Fig. 2.3-1 – Layout Schematic for the Proposed Bypass

The right-of-way of the existing road is equal to 40 m. Due to the expansion of the road, according to a preliminary estimate along the road and the offered bypasses there is a need of repayment of lands (land acquisition). Some farmlands and irrigating systems will be affected along the project Site. About 80% of the project site will pass along the existing road which is smaller and worse in terms of quality of the road. The project site ends near Kordai bypass at 162 km sign.

Natural zones, ecosystems or sensitive habitats are not presented along this project site.

2.4 RIVERS AND BRIDGES

The main surface water sources in the area of the reconstructed road are Karasu, Kurozek, Samsy, Zhyrenaygyr, Targap rivers. All the watercourses pass through the territories of Kazakhstan. They originate high in the mountains, have mixed nourishment and two flood peaks: during spring snowmelt and during summer when there is intensive melting of glaciers. Short-duration floods also result in showers in mountains and foothills.

The rivers' nourishment is mainly of groundwater and precipitation type, and water levels therein are dependent on the annual amount of solid precipitation. The extent of mineralization in the spring is small and increases in the summer and winter.

Groundwater of the modern Quaternary and Paleozoic sediments that lie at great depths dominate in the territory of the oblast. Ground water are significantly spread. Its depth varies from 2 to 10 meters. It is fresh by quality. In some sites, at the bases of the detrital cone, groundwater form springs and wetlands (saz), blowing out.

In spring and summer, floods occur in many rivers, which results in flooding of bridges.

Spring and mudflows of mountain rivers carry large amounts of gravel and sand deposits. When exiting the mountain, waters of the rivers are intensively taken for irrigation.

The project provides 2 traffic interchanges at different levels by the «tube» type at km 59+120.

The existing bridges will be reconstructed with broadening for additional two lanes. The average level of a site is 600 m above sea level; with a minimum of 560 meters and a maximum of 640 meters. Bridges and traffic interchanges of a site are given in Table 2.1.

Table 2.1 – Bridges and Interchanges

No.	Section
1	Km 74+580 bridge over aryk
2	Km 76+200 bridge over stream
3	Km 80+500 bridge over Zhirenaigyr river
4	Km 96+500 bridge over Targap river
5	Km 115+750 bridge over stream

Along passing of «Uzynagash – Otar» road section the artificial constructions for the passage of maximum water expenses of rainfall floods, are presented by round and rectangular culverts of various diameters and sizes. All pipes have been constructed in 2004 and are in rather good operating condition.

On road section, passing through Kordai district of Zhambyl oblast all the existing 20 pipes need in increasing of mouth. The road highway, passing across the waste plain, brought into subjection to the general land relief. On the considered site the longitudinal profile has convex character. The most lowered district marks, where there is a concentration of rain drainage are on the ends of a site of km 144 and km 157.

On road site, passing through Almaty oblast in the existing 39 pipes, 50% require increase of mouth. And the artificial constructions offered by designers are given below.

2.5 BORROW PITS

According to the Terms of reference for the detailed project development, the designer will define some existing and explored soil reserves and borrow pits along the reconstructed road with a registration in the name of the Employer of a permit authorization for the exploration and production of common minerals, the harmonization of their location with the land users and the competent authorities in the use and protection of water resources, forestry, wildlife protection, reproduction and use of fauna and especially protected natural territories, with the conclusion on suitability of the soil and the availability of necessary volumes confirmed by the state expertise for mineral reserves, as well as with the positive conclusions from the state environmental expertise of the Committee of Environmental Regulation of the Ministry of Energy of the Republic of Kazakhstan and sanitary-epidemiological expertise of the Committee for Consumer Rights of the Ministry of National Economy of the RK (Resolution of the Government of the RK No. 721 «On Approval of the Rules for Subsoil Use Rights» dated July 12, 2013).

As a rule, it is not allowed to create borrow pits less than 500 m from any river according to the Ministry of Agriculture.

For the existing borrow pits all EIA procedures have been completed and environmentally acceptable by recommended designers. Harmful effects on superficial and underground water sources and other aspects will not be. Nevertheless, as soon as borrow pits, which are used will be determined by the Contractor, the overview properly will be executed to confirm that those sections are really operating or are operated in the corresponding manner.

Irrespective of whether borrow pits will be used, the existing roads will be used for access to construction sites. On the main road the construction activity will influence transport stream and noise levels near settlements. Detailed monitoring will be conducted prior to the construction start. Calculation of the traffic taking into account all access roads together with the program of monitoring will be prepared prior to the construction start, as part of measures for environment management.

Table 2.4 Borrow Pits

No.	Borrow Pit	Materials	Status	Length, km/ Distance from the alignment
1	Borrow Pit №1 (S = 30,3 ha)	Soil	Has been studied/proposed by the designers	km 110+500 / 5,7 km
2	Borrow Pit № 2 (S = 24 ha)	Soil	Has been studied/proposed by the designers	km 127+500 / 5 km
3	Borrow Pit № 3 (S = 37,5 ha)	Soil	Has been studied/proposed by the designers	km 139+925 / 0,78 km
4	Beriktas-2 Rock Quarry (S = 10 ha)	Sandy gravel	Existing	km 107/ 8,2 km
5	Crushed stone plant in «Targap-1» section «Assyl-Tau-Zhan» LLP	Sandy gravel	Existing	km 103+500 / 4,7 km
6	Crushed stone plant «KSMK-2» LLP	Sandy gravel	Existing	km 83+900 / 1,3 km
7	Crushed stone plant «Nurly-Tas» LLP	Sandy gravel	Existing	km 62+500 / 16,3 km

2.6 ROAD MAINTENANCE DEPOT (RMD)

The main objective of Road operational service consists in repair and the maintenance of roads, bridges, overpasses and transport interchanges, construction and reconstruction of road sections, delivery of outputs for provision of road safety.

Road Maintenance Point (hereinafter referred to as the RMD) is a local production link under the control of RMD on national roads. RMD provides repair and the maintenance of the designed section of «Uzynagash-Otar» road, reconstructed in Category 1b with 4 traffic lanes. Based on it the length of the section, served by RMD, is 30-40 km. (SNIP 3.03-09-2003r table 11.1).

The service of repair and maintenance provides year-round free passage of vehicles on roads with the set driving speeds.

The main objectives of service are:

- the maintenance of all complex of road constructions in technically sound state, ensuring vehicles traffic safety, including snow clearing of roads;
- taking measures to the prevention of the road accidents on roads – repair of a cement-concrete pavement of a road carpet, marking of pavements, signs installation;

- protection of roads and road constructions from early mechanical failure and systematic improvement of their technical condition;

The road service conducts supervision over road constructions, their protection, carries out necessary repair works. All roadworks are divided by four types: maintenance, running, mid-life repair and capital repairs.

Maintenance includes cleaning of road pavement from dust and dirt, elimination of slipperiness during ice-slick, care of heaving and weak road sections in autumn and spring periods, coloring of barriers signs and other means of information, care of elements of road architectural appearance, the maintenance of bus stops, rest platforms, carriageway markings application, providing of repair and replacement of a guard rail.

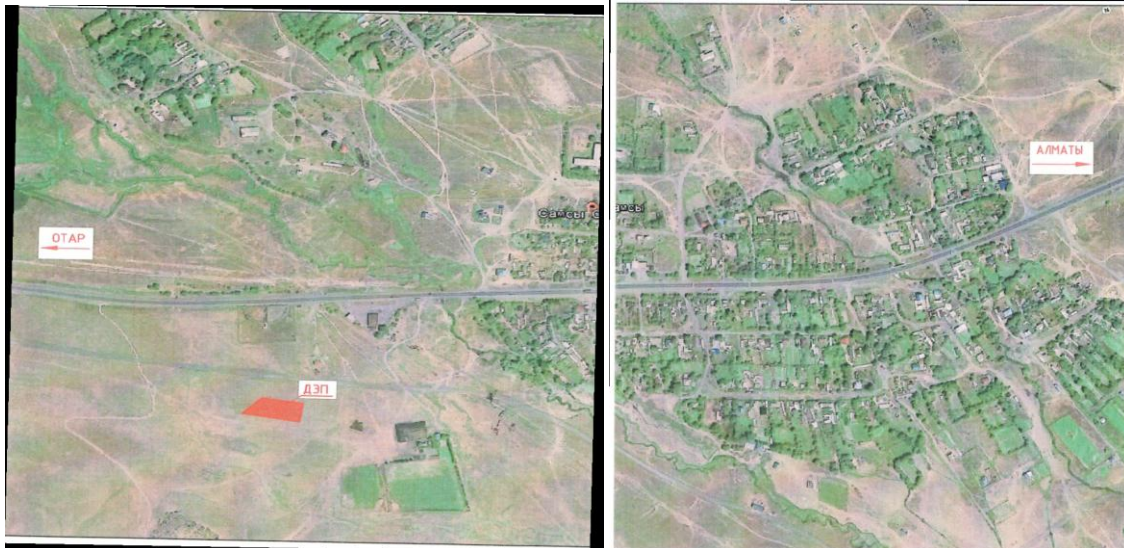
Current maintenance – repair of subgrade and drainage system, elimination of washaway of embankments slopes and excavations, grasses, correct small damages of reserves, protective, strengthening and regulatory constructions. On certain sites the shoulders are pours, cuts off and plans, current minor repair of road pavement is carried out, and also running repair of roadway buildings and constructions of road service is provided. Missing road signs and guard rails are installed, their replacement is made, carriageway road markings and road signs colouring are restored, guard rails are repaired and replaced.

Mid-life repair – make a continuous clearing of water diversion ditches, eliminate damages, reduce the steepness of embankments slopes and excavations, repair small bridges and pipes, repair drainage, safety and strengthening constructions, grass slopes. Make repair of road pavements with laying of a new layer of asphalt concrete. Make repair of roadway buildings and constructions at the cost not higher than 30% of their initial cost. Repair of signs and guard rails, repair of access tracks, road crossings, summer and bridle paths.

Major repairs - make sugrade repair, bring up to the sizes, specified categories of the repaired road, construct new drainage systems, protection. Build crossings in one level, broad roads for bus stops, create parking out of the carriageway for vehicles. Construct new road clothes. Make internal re-planning of roadway buildings and constructions with replacement up to 40% of materials of walls and inter-floor coverings. Build temporary buildings and constructions of road service. Create new access tracks and road crossings, access roads to buildings of road repair service not over 100 m, arrange autopavilions, bus stations, guard rails, create and equip points according to the accounting of the movement, etc.

The designed RMD is located in 300 m from the existing "Uzynagash-Otar" road section from west side of Samsy v., at distance more than 350 m from the settlement, on free from structures and green plantings of the territory. The distance to service of the designed road section is 2 km. The section under RMD construction is agreed by the commission on the choice of the land plot and represents a quadrangular figure with area of 2.8 hectares.

Figure 2.5.1. Planimetric Map of RMD Section Location Area



For the organization of processing procedure for servicing, maintenance, repair of road section, overpasses and own technical means, the project bodies accepted the following list of buildings and constructions on the territory of RMD:

The main buildings and constructions on the territory of RMD

1. Process building of machinery and repair shop
2. Stop shelter
3. The parking on 20 road machines
4. Warehouse of light oil products with reservoirs 2x25 m³, and operator.
5. Inspection ramp
6. Water reservoir 3x100m³ (fire extinguishing)
7. Transformer sub-station.
8. Waste treatment facilities 3 l/sec with reservoirs of the renovated water and rain water
9. Waste treatment facilities from cars wash production 1.5 l/sec.
10. Boiler room
11. Service premises for duty teams 2 nos.
12. Blockhouse on 50 people (NFC)

Auxiliary buildings and facilities

13. Pumping station for fire extinguishing
14. Wells, clearing away of household plumbing
15. Diesel-generator set
16. Gas filling station
17. Check-point
18. Light poles
19. Refuse-collection container
20. Water-storage tank 2x50m³
21. Open parking for the road equipment
22. Open parking for cars
23. Rest platform for workers
24. Loading dock
25. Warehouse of consumable deicing materials (sand, salt)

Working pattern of repair workshop and other services of RMD is single-shift with two days off, and working pattern of duty team, serving the road is two-shift during the summer period and single-shift in winter time. The number of the working days in a year: workers and employees of RMD - 260 days; - duty team of service of the road - 365 days. Shift duration – 8,2 hours. A number of hours in a year 1756, including in summer period – 1171 hours; in winter – 585 hours.

The number of staff – 53 persons, including the master – 1; duty electricians – 2; the operator of a boiler hpuse – 1; details mechanics – 2; the welder – 1; machine operators – 2; tire fitters – 2; the operator of FS – 1; drivers of special vehicles – 20; tractor operators-bulldozer drivers – 5; general workers, cleaners – 3; GAE and PAM – 9; watchman service – 4.

3. ENVIRONMENTAL AND SOCIAL BASELINE DATA

3.1 UZYNAGASH-OTAR ROAD SECTION

3.1.1 GENERAL DESCRIPTION

«Uzynagash-Otar» road section of km 63-162 is the road that connects Kazakhstan and the republics of Kyrgyzstan, Uzbekistan and Tajikistan. The designed section of road of km 56-143 and road structures is located in Almaty oblast in the territory of Zhambyl District. The site of km 143-162 is located in Zhambyl oblast in the territory Kordai District.

The section (63-162 km) begins in 47 km to the north-west from Almaty centre (kilometrage from «Almaty-Bishkek» road). Starting from Uzynagash village the road steadily goes in east and north-east direction, approximately 2-5 km to the north and in parallel to the existing main road, A351 («Kuldzhin Tract»). The road crosses approximately 3 seasonal rivers (km 74,58; km 76,2; km 115,75), which dry in summer, but can bear a significant quantity of water and deposits in the spring. On km 80 Zhirenaigyr river and km 96 Targap river, these rivers are constant waterways, though with big fluctuations in water expenses. The existing bridges will be reconstructed and the new bridge is built for additional two strips.

Uzynagash-Otar is a part of «Western Europe-Western China» International Transit Corridor, and it is the main source of traffic intensity increase annually. The territory of the road alignment and road structures differs in natural conditions and different types of forms of the relief.

In the south, the mountain ranges of Trans-Ili Alatau, Kungey and Tereskei Alatau are stretched. These mountains belong to the peripheral part of the mountain ranges of Central Asia.

In Almaty and Zhambyl oblasts, where the road passes, the terrain is represented by foothill steeply sloping plain of Trans-Ili Alatau that is undulating to the north.

A characteristic feature of the relief of Trans-Ili Alatau is a wide strip of foothills, stretched along the northern slope. Foothill stage is morphologically clearly expressed throughout the range.

Absolute elevations are ranging from 720m to 890m.

The slope of the terrain defines a well-formed sub-meridian hydrographic network from the south to the north. The main watercourses are Karasu, Kurozek, Samsy, Zhyrenaygyr, Targap rivers. These are the rivers with a constant flow. They originate high in the mountains, have a mixed nourishment and two peaks of high waters: during the spring snowmelt and during the intensive melting of glaciers in summer. Short climbs of water are also resulted by heavy rains in the mountains and foothills.

In general, the site will be constructed along the existing A2 route.

The total area of Almaty oblast is 428,0 thousand sq.km. The administrative centre of oblast is located in Taldykorgan t. There are 16 rural districts, 10 small cities, 15 settlements, 759 villages (auls) in oblast. Population of area made 1 631,4 thousand people (without Almaty).

Total length of this site at the project makes up 80 km.

Zhambyl district – the project length is 80 km. The total area of Zhambyl oblast is 144,264 thousand sq.km. The administrative centre of oblast is located in Taraz. There are 10 rural districts, 3 small cities, 7 settlements, 14 villages (auls). Population of the area is 1 070, 239 thousand people.

Kordai district – the project length is 16 km.
There is no data on social objects as for today.

3.2 CLIMATE

Main climatic factors along the designed road are presented below:

- 1) Sharply continental climate. In the coldest winter months (January) -8°C , -11°C . In the warmest summer months of $+40^{\circ}\text{C}$;
- 2) Rainfall varies from 150 mm to 400 mm a year. The greatest number of rainfall in the spring and the smallest in the summer;
- 3) Snow is in November and snow cover lies 80-100 days, 21-38 cm thick;
- 4) Snow cover protects the soil from deeply frost penetration.
- 5) Winds usually from the north-east and the north-west;
- 6) Sandy storm can cause an erosion of soils in the summer.

The main climatic characteristics of the passing region of the projected road section according to the closest meteorological stations of «Almaty» are presented in table 3.2

Table 3.2 – Main climatic indices of «Almaty» Meteorological Service

No.	Climatic indices	Almaty
1	2	3
1	Average annual temperature $^{\circ}\text{C}$	+8,9
2	Average temperature of the coldest month (January) $^{\circ}\text{C}$	- 6,5
3	Average temperature of the warmest month (July) $^{\circ}\text{C}$	+ 20,7
4	Absolute minimum temperature $^{\circ}\text{C}$	- 38,0
5	Absolute maximum temperature $^{\circ}\text{C}$	+ 42,0
6	Average precipitation level, mm, including winter period	491
7	Thickness of snow cover with 5% exceedance probability	50
8	Number of days in a year: ice-slick hail snowstorm wind>15m/sec	12 7 5 21
9	Typical period of air temperature More than 0°C begin end duration	13/03 11/11 242
	More than 5°C begin end duration	27/03 25/10 211
	More than 10°C begin end duration	13/04 9/10 178
10	Average annual wind speed m/sec	1,7

3.3 RELIEF AND LANDSCAPE

Most of «Uzynagash – Otar» road alignment is located within the foothills of Trans-Ili Alatau, Korday Mountains, that differ in heterogeneity of soil conditions (climate, vegetation, topography and others). When changing climate, hydrological conditions, geology, vegetation and other factors, a change in the leading factors of soil formation for the soil surface occurs. As a result, there are two clearly expressed soil-climatic zones in the territory of the oblast: light brown and gray desert soil. Light brown soils are found on the steeply sloping plains of the blurred foothills. Light brown soils are all calcareous. These soils have the fully developed profile, and mostly are used in agriculture. The humus content varies from 2 to 2.7%. The humus horizon is 25-30 cm. These soils contain a considerable amount of total nitrogen. Soil absorbing complex of these soils is saturated with calcium. The amount of the absorbed sodium is insignificant. These soils are not saline.

In addition, light brown eroded soils are found within Zhambyl District on the dissected steeply sloping foothill plains. These soils have a shorter humus horizon, and they are less fertile. Soil-forming rocks in this part are loess and loess-like loam.

At lower altitudes, light-brown soils give way to ordinary gray soils, which differ little from the first. These soils form a second subzone of desert-steppe zone. The band of spread for ordinary gray soils is confined to the middle and the bottom parts of the sloping piedmont plain, characterized by steeply sloping hilly terrain and relatively smooth surface. This soil has fully developed profile with a relatively low content of carbonates. The amount of humus ranges from 1.5% to 2.0%; there is a small capacity humus horizon 24-25 cm. The texture of ordinary gray soils is referred to medium loams.

The big influence on soil of the area where the road passes has been shown by anthropogenic factor. The soils are largely cultivated in connection with long-term use in irrigated agriculture. These soils occur in the 1st saz band. Groundwater occurrence is shallow.

The geological structure at the construction sites is dominated by loess loams, sandy loams, sometimes with streaks of sand, gravel, silty clays, which are characterized by high pulverescent nature (50%) and the presence of subsidence properties. There are the first type ground subsidence conditions. Soils are non-saline.

According to studies in soils, the following geotechnical elements have been identified:

- top soil,
- bulk soil layer, dissected layer capacity of 0.3 m,
- semi-hard loam, dissected layer capacity to 15,0m,
- stiff loam, dissected layers and sub-layers capacity of 0.3 m,
- high-plastic loam, dissected layer capacity of 0,0 ÷ 9.0 m,
- very soft loam, dissected layer capacity of 0,0 ÷ 3,4m,
- pebble layer, dissected layer capacity of 2.3 m.

Geographically, the site of the designed road is related to the Ili province, the corresponding extensive mountain hollow, which extends latitudinally between Jungar Alatau in the north and Ketmen and Trans-Ili Alatau mountains ranges in the south. Around the middle of this depression, there is a sharp narrowing extending almost to Ili river, hills of Katu and Kalkan on the right bank, and Boguty mountains on the left bank.

Local morphological conditions of Ili Valley in place of its narrowing define specific conditions for the waterways runoff formation of northern exposure. The mountains here are the best mountain

rise on the way of moist air masses of the westerly direction; therefore, they are mostly provided with moist.

Along the foothills of mountains bordering it to the north and south, Ili basin is contoured with technological faults that define its high seismicity. The project area is classified as 9 out of 12 within the Mercalli intensity scale, «Destructive» zone of seismicity. The depression is a thick layer of red sandstone, sandy clays and sands, where variegated clays and sands lie replaced by the gravel and conglomerates in some places.

Sandy alluvial pumps in the riverbed band of the depression are deflated by wind and turned into barchan and hilly aeolian sands, especially in the eastern part of the road.

3.4 SOCIAL AND ECONOMIC CHARACTERISTICS

«Uzynagash-Otar» road, km 63-162, is a part of the road linking the southern capital of Kazakhstan, Almaty, with the Republic of Kyrgyzstan, Uzbekistan and Tajikistan. There are 148,110 people who live in Zhambyl District of Almaty oblast, including 73,578 men and 74,832 women, including 38,022 people in Uzynagash village that is made up by 18,904 men and 19,118 women.

In the road alignment, there are Targap and Samsy settlements located.

3.4.1 POPULATION AND DEMOGRAPHICS

The population of Almaty oblast, as for 01.06.2015, is 1 642 334 people. Most of the population lives in cities and suburbs. Recently, there was a decrease in employment of the population in industry and agriculture, but similar figure was significantly increased in trade and service sectors.

Targap (1 299 ppl) and Samsy (1 500 ppl) settlements are located in the road alignment area.

Since 2009, the population in the settlements has increased by 12 and 19%, respectively.

From 2002 to 2005, «Almaty – Bishkek» road was reconstructed, in connection with which the volume of cargo transportation increased and livelihood of the population improved.

Uzynagash is a village in Zhambyl District of Almaty Oblast of Kazakhstan, the administrative center of Zhambyl District. The administrative center of Uzynagash Rural District.

In 1999, the village population was 23 887 people (11 579 men and 12 308 women).

Uzynagash is located 43 km from Almaty.

Zhambyl District is an administrative unit in the south-west of Almaty Oblast of Kazakhstan. Administrative center is Uzynagash Village.

Ethnic composition (as of January 1, 2010) in Zhambyl District

- Kazakhs - 100 964 people (80.06%)
- Russian - 12 887 people (10.22%)
- Uighurs - 3759 people (2.98%)
- Turks - 2225 people (1.76%)
- Azerbaijanis - 1333 people (1.06%)
- Germans - 882 people (0.70%)

- Tatars - 807 people (0.64%)
- Kurds - 484 people (0.38%)
- Ukrainians - 421 people (0.33%)
- Uzbeks - 380 people (0.33%)
- Kirgizs - 336 people (0.27%)
- Chechens - 290 people (0.23%)
- Koreans - 163 people (0.13%)
- Other - 1177 people (0.93%)
- Total - 126 108 persons (100.00%)

During 2014, the birth rate increased by 0.3%. Index of total mortality decreased by 0.6. The natural population growth rate is 24.6%.

Otar is in Korday District of Zhambyl Oblast of Kazakhstan. Administrative center of Otar Rural District. Located 69 km to the north-east from the district center, Korday Village.

In 1999 population of the village was 4 355 people (2 156 men and 2199 women). According to the census of 2009, there were 4 540 people living in the village (2 239 men and 2 301 women).

Korday District is the most eastern district in Zhambyl Oblast of Kazakhstan. Located in Shu Valley, on the northern bank of Shu River. District center is Kodray Village.

According to the regional statistical office, the population of the district as of September 1, 2011 was 128 157 people.

More than 30 nationalities live in the area, including 70.4 thousand Kazakhs (or 55.0% of the total population), 36.8 thousand Dungans (28.7%), 14.3 thousand Russians (11.2%), all the rest - 5.1%.

3.4.2 INDUSTRY AND ECONOMY OF ZHAMBYL DISTRICT

In January-December 2014, goods amounting to 11 billion 465 million tenge were produced, the physical volume index was 101.7%.

During the reporting period, two new industrial facilities «Caspian Contractors Trust» LLP in Ulken Village, «Texan Invest Kazakhstan» in Kasymbek Village, in the amount of 625.0 mln. tenge have been launched, and additional 136 jobs have been created.

In 2014, 8 enterprises and organizations of oblast implemented the international standards of quality management system, ISO series, including 4 industrial ones: «Zhartas» LLP, «Almaty Kandy» LLP, «Company Zhenis-2006» LLP, «Zhol» LLP)

During 2014, the volume of investments in fixed assets was 36 318 million tenge, the physical volume index of 107.4%. The bulk of investments in the amount of 27 392.7 million tenge, or 75.4%, were used extra-budgetary funds (own funds of enterprises, organizations and individuals – 6 438 100 000 tenge borrowed funds). Volume of budget investments amounted to 8 925.0 mln tenge or 24.6%. In the sectoral structure, investment in transport and warehousing is of the highest priority constituting 56.7%, industry - 17.7%, electricity, gas, steam air conditioning supply - 14, 2%, real estate transactions - 11.2%.

Within the framework of the State program for accelerated industrial-innovative development in the Industrialization Map in Zhambyl oblast, «Almaty Poultry Sunkar» LLP project has been launched

for the production of the commodities in the amount of 877 million tenge with the creation of 41 jobs. During the 2nd quarter of 2013, 2 stores have been commissioned.

In 2010-2012, 2 facilities in the amount of 2 437 900 000 tenge have been commissioned and 60 jobs have been created: «Company Zhenis-2006» LLP, a fish processing plant, and «Tascom –KZ» LLP, a plant for the processing of natural stone.

In agriculture, goods worth 24 435.6 million tenge have been produced in 2014, the physical volume index was 100.9% compared to the corresponding 2013 indicators.

The number of all types of livestock has been increased. The number of cattle amounted to 97.1 thousand head (115.3% compared to the corresponding period in 2013), sheep and goats -485,4 thousand head (111.0%), pigs - 456 head (24.8%), horses - 25,1 thousand head (101.2%) and poultry - 306.7 thousand head (103.6%).

Total road length covered by all types of repair in 2014 in the district: 168.1 km of (71.8%) compared with 2013. There were 278.2 mln tenge allocated for the medium repair of transport infrastructure for 6.8 km of road, the current repair involved 20 000 kilometers with 76.1 million tenge allocated.

There are only 98 educational organizations, including 62 educational institutions, 29 pre-school organizations, 2 extracurricular organizations, 2 educational and industrial complexes, 1 vocational and technical college, 1 medical college.

In total, funding for education from the state budget involved 5.5 billion tenge allocated (50.5% of the budget).

In 2015, it is planned to open private kindergartens in Uzynagash, Kargaly, Mynbayev, Kaynazarov villages under the state program.

The district has 64 healthcare facilities, including 62 public and 2 private ones. There are 331 doctors and 593 medical nurses working in the district healthcare facilities. Healthcare budget in 2014 amounts to 1 733.3 thousand tenge.

3.4.3 INDUSTRY AND ECONOMY OF KORDAY DISTRICT

The area has the best known in Kazakhstan Korday field of red granite. There are no analogues of Kordai granite on beauty, richness, density and durability. Fine-grained stone structure gives it the valuable qualities. It is available to any type of processing and polishing.

In March 2011, memorandum was signed between akimat of Zhambyl Oblast, «KEGOC» JSC, «ZhES» LLP and the investor, «Central Asia Green Power», on cooperation in the development of renewable energy sources. The first phase of Kordai WPS with a capacity of 4 MW was launched on Korday pass in 2013. In 2014, with the launch of 9 «Vista International» wind turbines, Korday WPP increased its capacity up to 9 MW per year. Korday wind farm will allow reducing the purchase of electricity in Kyrgyzstan.

Not far from the highway of Western Europe - Western China, crossing Korday Pass, Kokadyr gold mine and «Central Asia Gold Corp» LLP plant for mining and processing of gold ore are located. Production started in 2014. The average gold grade of the deposit is 1.5 grams per tonne. Production capacity is processing up to one million tonnes of ore to extract tons of gold per year.

3.4.4 AGRICULTURE

Construction of the road will enhance agricultural development as the local people will be encouraged to produce more because of the opportunity to have easy access to markets.

3.4.5 LIVELIHOOD AND POVERTY

The eastern part of the road is one of the more industrialized project areas, relatively well served by transport and other infrastructure, benefited from the industrial development, advances in agriculture production and medical care, education etc.

The rehabilitation and widening of the project road is expected to create employment opportunities and jobs for the local communities. The youth and women residing in the project area will benefit from the employment opportunities created due to the construction of the road.

The project construction is estimated to take about 3 years, hence significant benefit is expected from employment opportunities during this period. After the completion of construction, road will be handed over to the Road Maintenance Authority (KazAvtoZhol), who will engage contractors and the Contractor will engage local labor for routine maintenance activities, many of which are labor-intensive tasks that create local employment. Compared with a conventional road, additional employment opportunities will be created during and upon completion of the road. Proposed enhancement measures include: The contractor should employ work force mainly from the locality where the construction work is undergoing especially in positions that may not require special skill; In the process of employment, the contractor should give priority or preference to women especially in less risky jobs, and provide training for women in different skills as this contributes to the ongoing effort towards poverty reduction mainly at local level.

There could be income opportunities to be created to residents in the project area during construction works. Businesses such as shops, catering services (or small bars and restaurants) located along the project road and near the construction camps could earn additional income due to the presence of large number of construction workers. The opportunity for generation of income may continue during the project operation phase as long as availability & provision of other services like water supply, electricity etc. prevails along the new route. The existing services & infrastructure may be improved along the link roads contributing to improvement of local economy.

The Project will not result in physical displacement of any community or household in general. No person will lose employment or livelihood from the project. Rather there will be job opportunities for the youth, local food service providers and food vendors. Roads to be rehabilitated have been demarcated already and are free from any structures / buildings and land plots used for agriculture needs. No negative impacts on vulnerable groups in the society (such as the elderly, disabled, women, children and minority groups) will occur as a result of the roads civil works. The Project has no inherent negative impact or bias towards any vulnerable group.

OP 4.12 policy is triggered due to anticipated land acquisition and resettlement activities primarily related to construction works associated with expansion to four lanes from the existing two. Additional impacts are expected to allow land allocation for parking road-building equipment, bypasses, borrow pits, construction camps, and road-building materials and warehouse sites.

The RAP prepared for the road section (km 56-162) identifies the following impacts: A total number of land plots/ PAPs are 15, which include land plots for both temporary and permanent acquisition. Of these 15 plots 10 are agricultural lands used for grazing and not for cultivation, 5 are commercial lands, which are underdeveloped lands with no structures, therefore no loss in income

or demolition of structures is anticipated. The affected 15 owners have been paid compensations for their land plots in agreement with them. A main adverse impact would be loss of grazing lands; the affected persons will be provided with alternative pasture lands in the same locality. Lands required for construction of camps or borrow pits would be acquired from the State and/ or obtained through rental agreement on a temporary basis by the contractor. In case of a private land, it was agreed that the contractor pays cash compensation for rental and materials at market rates for acquired land plots as defined in the entitlement matrix. All land plots acquired for temporary use or on a rental basis will be restored to the original status at the end of the rental.

Labor Influx aspects

The construction activities require both skilled and unskilled labor. The experience from reconstruction road completed globally through Bank funds demonstrates that contractors may accompany a sizable number of outside labor force. The road sections completed under the previous Bank support show that the labor camps established by the contractors are managed well and no reported incidence of adverse social impacts or disputes with local communities. One important observations in this regard is that most of the outside labor force brought for previous road works belong to the same cultural/religious groups as the local communities and, therefore social relations between outside labor force and local community was cordial and mutually beneficial. A specific GRM was established at local community and camp level to address issues related to labor camp management. In summary, as per the experience in previous road sections, the risks related to labor influx were minimal and managed carefully. This positive experience will be upheld throughout project implementation.

The actual size of labor force and the number required for project activities is difficult to estimate at this stage. Nevertheless, influx of labor will be kept minimal as the project will aim to employ local labor force as much as possible for construction works. Thus, specific provisions to be included in contract documents will be (i) limiting the use of foreign unskilled and semi-skilled workers or unskilled and semi-skilled workers from elsewhere in Kazakhstan unless there are no local unskilled and semi-skilled workers available; (ii) payment of legal wages to workers; (iii) no use of trafficked or child labor for construction and maintenance activities; (iv) inclusion of women in the local construction force, in accordance with the local gender balance, to the maximum extent possible; (v) no differential wages being paid between men and women for work of equal value; and (vi) use of locally sourced materials used in the rehabilitation to the maximum extent possible;

Furthermore, to minimize adverse impacts, efforts will be taken to establish labor camps in locations outside of major settlements to ensure no undue social disturbance to local communities.

3.5 PHYSICAL AND CULTURAL RESOURCES

One of the questions, considered in case of a road construction is preserving the historical and cultural monuments, to which the certain constructions, memorable places and other objects, connected with historical events of people life belong. Creation of material and spiritual creativity, representing the historical, scientific, art value (ancient constructions, burials, archaeological objects).

According to the Law of RK "About Protection and Use of Objects of Historical and Cultural Heritage":

- in case of development of the territories prior to land plots withdrawal the research works on identification of objects of historical and cultural heritage shall be carried out;

- in case of detection of the objects, having historical, scientific, art and other value, physical persons and legal entities are obliged to suspend further works conducting and to inform about it to authorized body;
- work, which can create threat to existence of objects of historical and cultural heritage is forbidden.

According to the Archaeological Examination Conclusion No. AES-25 dated 13.06.2015, carried out by “Arhaeological Mission” LLP, the examination was conducted in Almaty and Zhambyl oblasts within the right of way of the road land, which was 70 m to the right and 70 m to the left from the existing road axis, in the territory with the total length of 106 km, width of examination of 400 m (200 m to the right, 200 m to the left from the road).

In the course of the examination carried out in the territory, 73 objects of historical and cultural heritage have been identified, including

- 12 objects of HCH which are archeological sites;
- 2 objects of HCH which are sites of public art;
- 8 object of HCH which are modern cemeteries;
- 51 objects of HCH which are modern memorials.

According to the Archaeological Examination Conclusion No. AR-01/14 dated 28.07.2015 carried out by “Arhaeological Mission” LLP in the territory with the total length of 38 km, width of examination of 400 m (200 m to the right, 200 m to the left from the road), two objects of historical and cultural heritage have been identified:

- Object No 1. Kurgan-type burial ground consisting of 11 kurgans (barrows);
- Object No 2. Single-type kurgan (burial ground).

Table 4.8.1. The sites of historical and cultural heritage identified during archaeological examination

Object No.	Object	Geographical coordinates UTM 43N	Location relative to the axis of the alignment	Object Description
1	Kurgan-type burial mound	590 701,523 4 795 006,258	Burial mound is located on alignment axis. Barrow 3 south of an axis on 19 m, barrows 4-11 north of an axis 70 m.	Consists of 11 kurgans (barrows), it is located on a terrace above flood-plain. Barrow 1. Stone and earth embankment 0,2 m high, with a diameter of 20 m. It is opened. Barrow 2. Stone and earth embankment 2 m high, with a diameter of 60 m. It is partially opened. Barrow 3-11. An earth embankment of circular-shaped, the average diameter 10 m, height of 1 m. Are dated the early Iron Age.
2	Single-type burial ground	566 425,533 4 797 168,168	Barrow is located south	It is located on side-hill. Traces of stone masonry.

Object No.	Object	Geographical coordinates UTM 43N	Location relative to the axis of the alignment	Object Description
			of alignment on 45 m.	Height is 0,2 m, diameter is 10 m.

Figure 4.8.1 Object No.1 Kurgan-type burial ground. Barrow 1.



Figure 4.8.2 Object No.1 Kurgan-type burial ground. Barrow 2.



Figure 4.8.3 Object No.1 Kurgan-type burial ground. Barrows 3-11.

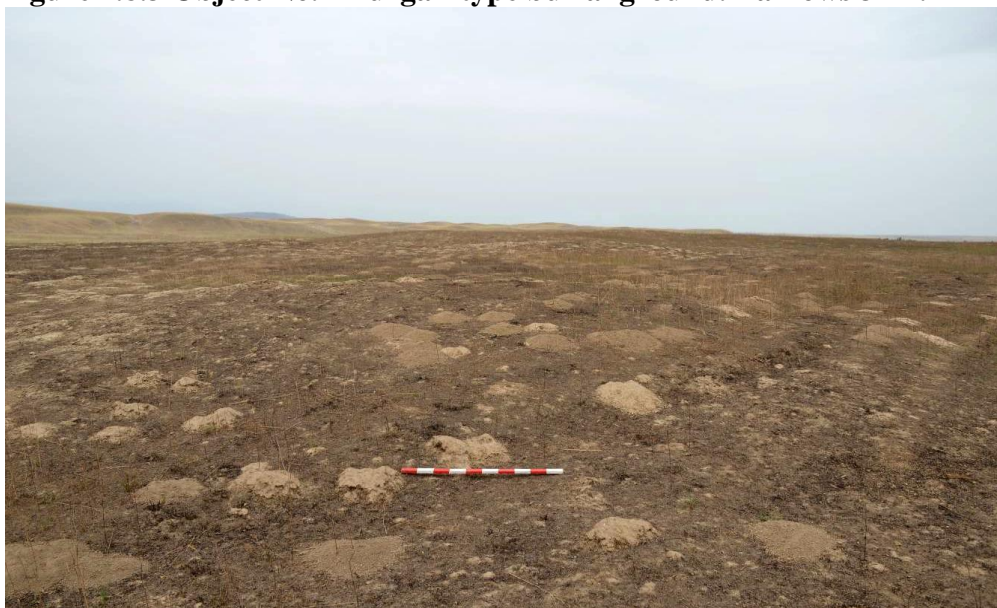


Figure 4.8.4 Object No.2. Single-type burial ground.



For the purpose of ensuring safety of Objects of HCH, revealed on the territory of examination, it is recommended:

1. Observance of conservation zones of 50 m from borders of objects is necessary.
2. In case of reasonable impossibility of observance of conservation zones of historical and cultural heritage of objects, it is necessary to carry out on them complex research works (hereinafter referred to as the RW). An ultimate purpose of RW is removal of the researched objects of historical and cultural heritage from the list of preliminary accounting on the basis of the scientific report, approved by authorized local executive body.
3. When carrying out construction works on the territory of the road, according to the Law of RK dated 02.07.1992. «About protection and use of objects of historical and cultural heritage», it is necessary to exercise vigilance and caution, in case of detection of relics of ancient constructions, artifacts, bones and other characteristics of material culture, it is necessary to stop all construction

works and to inform about finds into local executive bodies or into «Archaeological expertise» LLP.

3.6 SOILS

The territory of Almaty region differs in non-uniformity of conditions of soil formation. In case of change of climatic, hydrological conditions, a geological structure, vegetation and other factors, there is a change of the leading factors of soil formation.

On natural agriculturally division into districts of land fund of the Republic of Kazakhstan the object is located in a semi-desert and desert zone. The examination and classification of soils was carried out according to the "Systematic list and main diagnostic indicators of soil of Kazakhstan" and included both a consultation of existing soil maps and atlases for Kazakhstan, as well as soil sampling and classification during the geotechnical investigations done during preparatory works. The soil cover includes heterogeneous light gray soils, underdeveloped, gray- brown, sand ridges and hilly areas in conjunction with clay saline soils. Soils are mostly saline. Mechanical composition differs from sands to clay loams and light clay. Soil-forming rocks are mostly saline alluvial-delluvial deposits, represented by loam, sandy loam and sand.

The most important aspect of the soil characteristics is its suitability for removal, retention and subsequent use. In accordance with GOST 17.5.3.06-85 (Definition requirements for removal of topsoil at earth works performing) GOST 15.5.1.03-86 (Classification of overburden and host rock for biological reclamation of land) all soils were investigated for fitness for removal and subsequent use for bioremediation are divided into following groups:

Group 1: Soils with limited agricultural value

Light-chestnut medium depth general, light chestnut slightly saline ferrous mixed with medium saline ferrous 10-30%, meadow-light chestnut general medium depth general, mixed with meadow boggy soil meadow gray general soil with slightly saliniferous 10-30%.

Group 2 (unsuitable) – Soils unsuitable for topsoil removal

The second group comprises: meadow light chestnut medium saline with meadow-boggy medium saline 10-30%. light chestnut slightly truncated (eroded) with flood meadow 10-30%, light chestnut heavily saline mixed with hydromorph 10-30%, grey common medium eroded oil, grey general heavily saline, grey common heavily saline medium eroded mixed with meadow boggy 10-30%. Normally this soil is not recommended for removal but since it is common within river valleys in the area it is not possible to avoid. As this soil type is considered more valuable for agricultural purposes any activities disturbing or negatively affecting it shall be minimized to the extent possible, e.g. the soil type shall be considered for temporary works such as haul roads, laydown areas and camp-sites, to minimize impacts and ensure that restoration is diligently carried out.

3.7 HYDROLOGICAL CHARACTERISTICS

Surface waters

Although rainfall is comparatively low as indicated in section 3.1.2 the Almaty region is fairly rich in water resources due to the proximity of the mountains, where precipitation is higher and snow-melt and glaciers provides a perennial runoff. The region is drained by a number of large rivers and lakes which flow into the internally closed (Endorheic) Balkhash Basin at Alakul. The most significant waterway is the Ili River. Ili (an abundant envelope river), the largest river in Zhetysu

with the length of 1 439 km (815 km – in the territory of Kazakhstan). It originates in north-western part of PCR due to confluence of rivers of Tekes and Kunges, flows into Balkhash Lane in south-east, and Kapshagai Water Reservoir in north-west. The main tributaries are Kash, Korgas, Sharyn, Shilik, Talgar, Kaskelen, Kurty. The share of glacier-derived nourishment of rivers is more than 40%. This is the third river in Kazakhstan in terms of water flows (after Yertis and Zhaiyk). Ili river valley is one of the most picturesque places of Almaty region with desert and semi-desert landscapes. There are Ili riparian woodlands, willows, Asiatic poplar, Ili Berberis and salt trees growing. Numerous pheasants, chukars, tolai hares are found in tight tangles of trees and shrubs. There are roedeers, boars, goitered gazelles. In antiquity, Ili was a lively road from the Western China, now it is popular among the fanciers of extreme tourism, especially for rafting to Balkhash Lake. Other rivers include the rivers of Karatal, Aksu, Tnetek, Yrgayty, Kaskelen, Talgar, Large and Small Almatinka, Shyryn, Turgen, Sholak, Lepsi, Issyk, Shelek, Charyn, Khorgos, Zhirenaigyr, Targap, Samsy etc.

All major rivers originate in the high mountains, where conceal snow, glaciers and there is a year-round rain, but despite it the small-sized rivers dry up during the droughty period. During the period from March to June there can be short-time floods when the expenditure of the rivers and an amount of precipitation is much higher. Level of precipitates in a zone of the Section 1 is varied within 400-300 mm a year.

Underground waters

Designers carried out hydrological and geological researches along the project road with drilling of slits through each 500 m on plains and with more frequent drilling on changes of a landscape. The characteristic of underground waters is shown in fig. 3.7-1

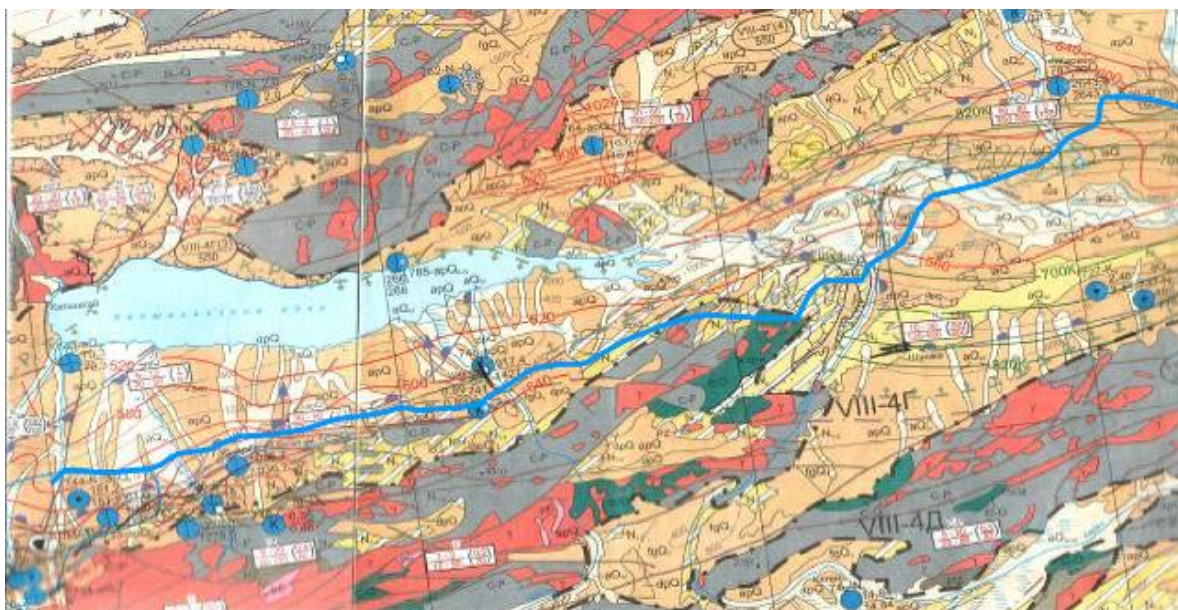


Figure 3.7-1 – Hydrological Map of the Project Territory

Flows of the underground waters, coming to cavity, begin the formation on hillsides and on the way to cavity center. Under the terms of an underground sink there are 4 hydrological regions: hillside, foothill step, foothill loop and foothill alluvial-proluvial plain. On the water horizons, on the hillsides converted to a cavity, the flow of underground waters is created in rocky crack breeds with the most intensive water exchange in a zone of aeration and on tectonic breaks. Owing to strongly partitioned relief the part of a flow falls out within a hillside, and the part goes to a cavity in the underground ways. In a quantitative sense the first component, for low-mountainous areas is on

average equal 6,5 l/sec. with km². The second part of a flow going to a cavity in the underground ways according to Institute of hydrogeology, is estimated in 1,7 l/sec.km² and makes 7% of total quantity of an atmospheric precipitation.

Vibration amplitudes of levels of underground waters make to 1,0-20,0 m, however the general depth within the designed road makes 5 m. On the irrigated lands the level of underground waters is at a depth up to 10 m. Pressure underground waters usually at a depth of 20-25 m. Chemical properties are varies. Light-salted and salty waters, with the salt from 1,5 to 5,0 g/l are dominated. The excessive mineralization occurs under stagnant conditions and the sand-salt soils.

Use of data of an operational hydrometry of the pilot balance studies of Almaty hydrogeological station allowed defining a ratio of the volumes of water, arriving from different sources. Filtrational waters from river beds (50-60%) participate in a supply of underground waters of alluvial cones and an irrigational intereconomic network (10-16%), an underground sink from a massif (8-14%), an infiltration of an atmospheric precipitation (9%), filtering of irrigation waters (9%) and water condensation – 2%.

The module of the general underground sink of a foothill loop is estimated at 27,2 l/sec. with km².

A proluvial-alluvial plain occupies the bottom of the valley. The deposits, forming the plain, are represented by sands, gravels, sandy loam and loam inter bedded clays. Movement of groundwater from the wide part of the valley and alluvial fan to the valley of the base river creates an irregular flow. At a distance of 16-20 km from the mountains a single powerful stream, formed in the cones, is divided by layers of impermeable rock into several aquifers. In these areas groundwater flow is reduced as a result of impermeable layers, debris material, and in some areas is due to tectonic movements. The flow of groundwater divides and part of it flows and feeds the numerous rivers. The final discharge of groundwater flow occurs in three ways: passing out into the Ili River, the outflow of the alluvium of the valley and the vertical flow into upper aquifers. The main discharge of groundwater for the foothill plain occurs on the valley itself and the main loss is the evaporation.

Water-bearing horizon

Water-bearing horizon of coarse boulder-pebble deposits of alluvial fans is located in the foothills. The deposits are characterized by high water abundance. Near the riverbeds the water is fresh, characterized by bicarbonate calcium, with dry weight of 0.2-0.3 g / 1, the remaining area is dominated by sodium sulfate saline water (1.4-2.8 g/1).

Water-bearing horizon is of sandy-clay quaternary deposits plains. This complex contains the ground and artesian water. The ground water is at the depth of 3-9 m in the valley of the Hi River, and up to 15-20 m in interfluvial spaces. Water below the local base is fresh, calcium bicarbonate, with solids up to 1 g / 1, in the upper aquifers it is brackish, sulphate-sodium with a dry residue of 1-3 g / liter.

Artesian water on the plains is wide spread. Typically, the thickness of alluvial deposits, proluvial piedmont plains contain some confined aquifer, whose thickness varies from 1 to 18 m. Artesian water is fresh hydro-carbonate-calcium and calcium-sodium.

3.8 FLORA AND FAUNA

Flora and Fauna: methodology of study of a biodiversity along the road

As a result of field researches by the consultants, and also provided information of field researches by the designers, it is possible to conclude that the alignment does not pass across sensitive habitats of flora and fauna.

Flora

Most of the territory of the alignment is represented by arable land planted with grain crops (soybeans, corn, wheat), clover, less vegetable and melon crops and pasture and grassland. Selected for a long time not cultivated massifs are covered with thickets of weeds: thistle, wormwood, burdock, etc.

Vegetation of light-brown soils of fescue-wormwood and wormwood-ash with feather, ebeleka, bulbous bluegrass. As we move to the north, to the sub-zone of gray soils, vegetation changes gradually, the amount of cereals reduces.

The vegetation on sierozemic soils is provided generally by a wormwood to which are almost always added in a small amount leban, ebelik, it is often possible to meet also a feather grass. The considerable part in a vegetable cover is taken by ephemeral plants: meadow grass bulbous, fire, small-sized sedge meadow, poppies.

From shrubs brere, barberry, wild cherry, meadowsweet, decorative plantations of willow and elm can be found.

Almost throughout the road alignment there is a forest belt, it is provided by an Siberian elm, (elm), balsam poplar, Tatarian maple, and also plantings of *Betula pendula*. All these trees are referred to rare and endangered species. They serve as a shelter belt from snow and sand drifts. Condition of forest belts requires felling and caring; felling of trees shall be performed after receiving tree-felling permits from local authorities.

Soil and vegetable features of a northern part of the area are caused by affiliation with a desert steppe zone. Here the separate species of plants, being rare endemic species, which are included in the Red Book of Kazakhstan: *Regel tulip*, *Juno kuschakewiczii*, *Incarvillea semiretschenskia*.

Vegetation on sierozemic soils is presented generally by a wormwood, to which almost always leban, *ceratocarpus* mixed in small numbers, it is often possible to meet feather grass. Considerable part in a vegetable cover is taken by ephemeral plants: bulbous bluegrass, brome, small sedge, poppies.

Moreover, the major moment is that the road will not have considerable negative impact on rare or endangered species more than in existing situation with human activity in project area, which is partially subjected to intensive agricultural activity, is partially used for a cattle pasture. The ecosystem in this area, thus, has already adapted to human activity and, thereby, is much less sensitive in comparison with the untouched nature.

Fauna

Due to high level of urbanization, the road section is not rich in the diversity of species of fauna. There are no registered rare, endangered or vulnerable animal species or birds. There is no record of any populations of Saiga, Marmot or goitered Gazelle in the Red Book. Here are no areas of wilderness or natural habitats including forest areas close to the alignment. In the vicinity of the proposed road there are no large areas of water or wetlands. There are no sensitive areas or areas of high landscape value within the rayon and there are no known area as a legal protected area.

Mountain zones in the south of the oblast near border with Kyrgyzstan are richest in respect of a biodiversity. Wolves, panthers, lynxes inhabit these zones. Further to the North on foothill plains the wild nature less diverse and big mammals a little bit. Populations of rodents are widely widespread: gophers, jerboas, field mice, hares, groundhogs and others. It is a lot of populations of birds in Almaty oblast. It includes various eagles, kites, ringtails, a bustard, quail, gray crane, sandy partridge, a jay, sparrows, pigeons, pheasants and others. As along the site there are no large water currents, big concentration of ducks, geese, swans and other waterfowl is not revealed. Also, because of a wide urbanization and intensive agriculture, the territory along the road is not diverse by birds.

On rivers beds and valleys of temporary water currents, cheegrass, liquorice, small reed prevail in humid places, wormwood, meadow grass are also met. From amphibian the lake frog and a green toad are widespread. Reptiles are presented by the Central Asian turtle, sunwatcher, middle and rapid fringe-toed lizard, grass snake, east steppe viper, copperhead snake.

From mammals the middle and large-toothed souslik, eared jerboa, Severtsev jerboa, common vole, tolai hare, Eversmann's polecat, fox, and wolves are the most characteristic.

Conclusion: There are no existing protected areas or natural habitats in the area of project influence. There is no permanent or seasonal migration of animals in this region. Engineering structures, such as bridges over the rivers, culverts, cattle pass and agricultural underpasses will serve as a potential route for accidental migration of random animals in the area of the alignment.

4. ENVIRONMENTAL MANAGEMENT, MONITORING PLAN AND INSTITUTIONAL RESPONSIBILITY

The environmental management plan is developed in accordance with Operational policy of the WB, and also based on section 4, chapter 14, article 128 of the Environmental Code of RK.

The major factors, negatively influencing the environment are: construction of camps, construction works on artificial constructions, operation of the specialized equipment, development of ground borrow pits during road construction, also auxiliary productions (a concrete mix construction unit, asphalt concrete plant, sizing plant, etc.).

Main objective of EMP implementation is decrease of pollution, settlement of indicators of quality of the environment and improvement of quality of the environment, providing environmental safety for sustainable development of the region using the best international practice from Contractors.

4.1 Environment Monitoring Plan

Environmental monitoring is a very important aspect of the environment management during the project implementation and operation to ensure safeguard for the environment. During construction, landslide monitoring, side slope monitoring and embankment monitoring will be conducted for the purpose of timely prevention of potential erosion. Borrow pits restoration, quarry activities, material storages, locations of asphalt plants, community relations, and safety provisions are described within the Environmental Management Plan (EMP).

In response to the environmental impacts identified during the study, an environmental monitoring plan has been developed and is presented in Table 7.1 and Table 7.2. The contract documents will contain a list of all required mitigation measures and a timeframe for the compliance monitoring of these activities. The monitoring will include supervision to check the Contractor's execution of Contract provisions during construction period.

The construction supervision consultant (CSC) in cooperation with MoID during project implementation will be required to:

- The Contractor will develop appropriate EMP. The CSC will use this monitoring plan as a basis for supervision of the Contractor's compliance with these EMP.
- Regular control for environment monitoring conducting, and submission of quarterly reports: the main parameters to be monitored are outlined in Table 7.1 and 7.2. The CSC will provide an Environmental Specialist as part of the CSC team.
- Regular control of the subproject roads, and submission of quarterly reports based on the monitoring data and laboratory analysis report. The Contractor and the Supervision engineer will be responsible for data collection for environmental monitoring.

A lump sum budget is allocated to cover monitoring cost during construction phase of the project. The PIU will hire a consultant for environmental monitoring and ensure that the road is monitored regularly during construction works.

The following measures will be taken to provide an environmental compliance monitoring program during project implementation:

1. The tender and contract documents will clearly determinate the contractor's obligations to undertake the environmental mitigation measures as set out in chapter 7 of this EIA and which shall be stipulated as enclosure to specifications;
2. The recommended environmental mitigation cost should be included as an item in the Bills of Quantities. It will be a guarantee of specific environmental mitigation budget available, which will be conducted as required. During the procurement, Contractors will be encouraged to include these costs in their rates and present the mitigation costs as an item in the Bill of Quantities
3. During construction, the Construction Supervision Consultant (CSC) in accordance with the Project Management Consultant (PMC) will control over construction, compliance with the requirements of safety, health and environment.

5. INSTITUTIONAL REQUIREMENTS

The following section describes measures for environmental management, which will be taken within the general project implementation. Roles and obligations of different organizations in application of these measures have been identified and measures for institutional consolidation have been defined, which are required to have these organizations fulfilling their assigned roles and obligations.

Environmental monitoring program will be prepared, as well as expenses related to its implementation will be incorporated to the construction Contracts and construction supervision project.

5.1 ORGANIZATIONS INVOLVED IN THE PROJECT

Institutions involved in environmental management of the project are the following agencies:

- Government of the Republic of Kazakhstan
- Ministry for Investment and Development (MID)
- Committee for Roads
- International Bank for Reconstruction and Development (IBRD)
- Committee for Environment Protection of the Ministry of Energy of the RoK
- KazAvtoZhol NC JSC – national operator in national roads management
- Kazakhavtodor RSE – company for roads operation and maintenance
- Project Management Consultant (PMC)
- Construction Supervision Consultant (CSC)
- Contractor
- Regional and local authorities
- Affected communities

5.2 INSTITUTIONAL RESPONSIBILITIES

MID is responsible for preparation, implementation and financing of the environmental management and monitoring of objectives, the way they are related to the project. MID will be fulfilling its obligations through the PMC, which will be responsible for overall project implementation and will undertake daily measures for projects management, as well as monitoring.

Experts shall be appointed to the PMC for performance of all the assignments related to the environmental assessment. Environmental specialists of the PMC will have support from the CSC (Supervision Consultant). The CSC team, in its turn, will be required to provide an environmental monitoring experts and social monitoring expert.

In implementation of assignments for environmental management and monitoring, specific technical assistance will be provided by the PMC:

- by environmental experts, who are a part of the Supervision Consultant team for all the contractors involved in the project. Experts will be assisting in all the environmental planning and implementation aspects, internal monitoring and assessment (MA), and training of the CSC employees, as well as employees of contractors and relevant public institutions in relation to environmental assessment issues and WB's Environmental Policy;
- independent agency for monitoring (IAM) can be employed to (I) carry out time to time monitoring and assessment, (II) inspect a third party's performance of activities for IEE and EMP, and (III) to ensure that all the identified adverse impacts have been mitigated at present.

Residents of settlements and administration of villages and organizations will be assisting in arrangement of meetings and providing information about the affected communities if identified and about environment impacts. Process account will be an integral part of the Report for Internal Monitoring prepared by CSC and PMC.

Responsibility for fulfillment of monitoring requirements for this EMP is shown in Table 7.1 and Table 7.2 in accordance with the Environment Management Plan, monitoring and Institutional Responsibility of the Section 4.

Implementation of measures for impacts mitigation at the construction stage will be a contractor's responsibility in accordance with contract specifications and requirements of the Loan. Environmental experts of the CSC will be coordinating monitoring of mitigation measures implementation at the construction stage. The local environmental expert will be coordinating together with international environmental expert to make difficult decisions, which arise in this field, as well as providing constantly updated information for submission of reports to PMC and WB.

After completion of the project, MID will be responsible for roads operation and maintenance. The PMC, in cooperation with the regional/oblast akimats, will be conducting regular and random monitoring according to the schedule of the monitoring plan.

It is recommended to conduct time to time environmental monitoring of fauna after the completion of the road construction. It is likely that taking over of works after completion shall include full examination of the Contractor's compliance with the specified requirements for environmental protection. This should include inspection of proper cleaning and reclamation of all the temporary work sites (borrow pits, construction camps, etc.), as well as proper landscaping, and draining of all the soil reserves and landfills.

In the long term, it is important that the authorized road maintenance authorities monitor the effectiveness of erosion protection measures. Some forms of reporting should be implemented to have information about defects in design or construction methods fed back to the center and road maintenance depots.

It is also recommended that the CSC conducts time to time assessment of the livestock and migratory herds and animals mortality rate, especially on the new alignments if there is a need for construction as a result of road traffic impact. Adjusting measures should be undertaken if the frequency of such cases increases significantly. Different stages of the EIA implementation on certain sections (lots) of the road:

(a) Road design planning with special account:

- sections with large excavations and embankments, and borrow pits of construction materials;
- ground reserves for embankments and waste dumping areas;
- warehouses for toxic waste and debris;
- locations for temporary concrete plants and other materials processing plants;
- construction camps of contractors;
- sources of water for construction purposes;
- temporary access roads and other temporary structures.

(b) Obtaining written consent from local administrative authorities related to landfill spoils, waste burial, contaminated soils and toxic substances.

- (c) Obtaining written permit (from local authorities, representatives of the environmental protection authorities and sanitary inspector) for permanent and temporary acquisition of land for the construction of roads, borrow pits, landfills and contractors' construction camps, concrete plant and other plants for processing of materials.
- (d) Harmonization of any changes with local institutions responsible for irrigation networks if they are affected by the project.
- (e) Harmonization of planning requirements for bridges and other structures in rivers or other water bodies with agencies responsible for fishery and local representatives of environmental protection authorities.
- (f) Monitoring (by measuring) of air emissions and discharges to land during construction.
- (g) Monitoring of vibration impacts associated with construction, the Contractor is responsible for any preventable damage caused by itself. Contractors which do not comply with legal requirements shall be liable for these violations, and shall pay compensations for any damage caused.

GRIEVANCE REDRESS MECHANISMS INCLUDING GRIEVANCE DURING CONSTRUCTION

Guideline on Grievance Redress Mechanism (GRM Guideline) is designed and approved in 2014 by Committee for Roads MoID RK for all road sector projects. GRM Guideline is intended to be used as a guidance document for stakeholders involved in design, preparation and implementation of road projects, and complements grievance redress requirements incorporated in the loan agreements, as well as environmental and social safeguard documents (in case of projects funded by IFIs).

The overall objective of the GRM Guideline is to establish an effective communication channel among the stakeholders for providing a timely and efficient two-way feedback mechanism to address any complaints made about the project, including those from members of the communities, local businesses and other stakeholders, as well as raising public awareness on the projects and on the availability of a GRM mechanism. The Grievance redress procedure suggests resolution of grievances in the spirit of mediation between the parties, and should comply with the spirit of IFI standards and practices.

The GRM will be available for those living or working in the areas impacted by the project activities. Any person impacted by or concerned about the project activities will have the right to participate in the GRM, will have easy access to it, and will be encouraged to use it. The proposed GRM does not replace the public mechanisms of complaint and conflict resolution envisaged by the legal system of the RK, but attempts to minimize use of it to the extent possible.

GRIEVANCE REGISTRATION

Complainants or stakeholders may visit Akimats, call or send a letter or e-mail or fax to grievance focal point, at CSC, GRC Coordinator and CfRMoID RK to register their grievances related to road sector projects. Receipt of grievances received through a letter or e-mail or fax shall also be acknowledged through a letter / e-mail / fax within 3 working days upon receipt by GRC coordinator at regional level. Receipt of grievances lodged in person or via phone will be acknowledged immediately.

Complainants or stakeholders may visit, call or send a letter or e-mail or fax to community Akimat, grievance focal point at CCs and CSCs, GRC Coordinator at CoRMoID RK to register their grievances related to road sector projects. Receipt of grievances received through a letter or e-mail or fax shall also be acknowledged through a letter / e-mail / fax within 3 working days upon receipt by GRC coordinator at regional level. Receipt of grievances lodged in person or via phone will be acknowledged immediately.

Each project level party participating in the GRC at regional level shall maintain a record-book to register the complaints, and regularly share the grievance details with GRC coordinator at regional level, in order to keep the track of grievances and the status of their resolution. The GRC coordinator at the regional level shall coordinate with each member of the GRC on a weekly basis, collect relevant documents, maintain a consolidated registry of complaints received, follow-up on the status of resolution of each complaint received, maintain an up-to-date grievance database and provide relevant reporting.

Whichever method is used for receiving the grievance (e.g. e-mail, mail, fax, call, etc.), its registration will be made by the GRC coordinator at the regional level, who will acknowledge receipt and follow up with the grievance investigation and consideration by the GRC at regional level. All the grievances will be recorded in a standard format, which will include but not limited to the following details:

- Contact information of the affected party;
- Date, time, and place where the complaint was received;
- Name of the person who received the grievance;
- Details of the grievance.

The project will pursue a participatory approach in all stages of planning and implementation. This is expected to ensure that the affected people have nothing or little to complain about. However, some people may still remain dissatisfied for some reason or the other. Many grievances arise due to inadequate understanding project policies and procedures, and can be promptly resolved by properly explaining the situation to the complainant.

In case the complainant refuses to provide contact details or no contact information is available in the grievance received by e-mail / mail / fax, the GRC at the regional level will consider the anonymous complaint. In such cases, the printed response will be posted at the information board of the KazAutoZhol's respective regional branch, as well as at the information board of the relevant Akimat, so as the complaining party can approach and get familiarized with the feedback.

The GRC coordinator at regional level will collect the data on grievances and centralize the grievance registry to assure that every affected person, group or community has an individual registry number and that follow-up and corrective actions are implemented as per resolution provided, or if the issue was not resolved at regional level, it is passed for consideration at the central level. The grievance database will be maintained and updated on a bi-monthly basis by the GRC coordinator at regional level for each project. The database will be designed to make it simple and easy to input data, provide information on grievance and status of its resolution, timeline for resolution and level at which the issue was considered and resolved, track individual grievances, etc. The grievance database will specify details of grievance resolution and include information on satisfaction of complaining party by the resolution provided (excluding the cases of grievance lodged anonymously). Where it will not be possible to resolve grievances to the satisfaction of both

parties, appropriate information will be reflected in the database. The GRC coordinator at regional level for each project will share the grievance database with the safeguard specialist of KazAutoZhol central office / GRC coordinator at central level, who will maintain and update the centralized grievance database for all road sector projects.

GRIEVANCE PROCESSING

Depending on the nature of grievance, this step may include verification, investigation, negotiation, mediation or arbitration, coordination with appropriate agencies and decision-making. Verification includes gathering of documents, proofs and facts, as well as clarifying background information in order to have a clear picture of the circumstances surrounding the grievance case. Verification will be undertaken by members of the GRC at the regional level, and overall coordination of activities will be ensured by the GRC coordinator on regional level. Results of verification or fact-finding activities will be presented at the meeting of the GRC at regional level, where the issue will be considered and resolution will be sought.

The GRC at regional level will discuss the grievance case within ten working days and recommend its settlement to parties. Meetings of the GRC at the regional level will be held on a bi-monthly basis; however, special ad hoc meetings can be arranged in between of regular meetings as needed. The GRC coordinator at regional level will ensure that actions and decisions are properly documented in order to demonstrate that the GRC at regional level is providing an appropriate attention to the grievance and is actively seeking ways to obtain resolution that could satisfy the parties.

If grievance cannot be resolved by the GRC at the regional level and is passed for consideration by the GRC at the central level, appropriate documents collected during investigation and fact-finding shall be shared with the GRC coordinator at the central level. The GRC coordinator at the central level will circulate such documents among the members of GRC at central level, to ensure that they are aware of all relevant details prior to GRC meeting.

Consideration of grievance case by GRC at central level may require further verification of the issue, including gathering of additional documents, obtaining input from various state stakeholders and project parties in order to have a clear picture of the circumstances surrounding the grievance case. Additional verification will be undertaken by members of GRC at the central level (as needed), and overall coordination of activities will be ensured by the GRC coordinator at central level. Results of verification will be presented at the meeting of GRC at the central level, where the issue will be considered and resolution will be sought.

The GRC at the central level will discuss the grievance case within twenty working days and recommend its settlement to parties. Regular meetings of GRC at central level will be held on a monthly basis; however, special ad hoc meetings can be arranged in between of regular meetings as needed.

If following its consideration by the GRC at central level, the grievance cannot be resolved to the satisfaction of the parties, the recommendation will be made to seek resolution through the courts. Irrespective of the outcome of grievance consideration, documentation regarding the case by the GRCs at regional and central levels will be collected and maintained by GRC coordinator at central level (with input from GRC coordinator at regional level). The GRC coordinator at the central level will keep a separate track of cases, which were not resolved through GRM and were referred to the RK legal system.

DISCLOSURE OF GRIEVANCE REDRESS PROCEDURE

The grievance redress procedure information for the project will be disseminated through information leaflets and brochures, and presented during the project related meetings and public consultations. During these gatherings, it should be emphasized that the informal GRM is aimed at quick and amicable resolution of complaints and does not substitute the legal process established under national legislation.

At the beginning of each project (commencement of construction at each section of the road) community consultation shall be carried out by CCs and CSCs under the coordination and supervision of the GRC coordinator at regional level to ensure people’s awareness of the availability of the GRM, steps of grievance resolution as well as contacts and locations of focal points to be approached in case of grievance. CCs, CSC, PMCs, Cfr, MoID RK regional branches and Akimats, as well as NGOs and professional mediators are considered as the key actors of the GRM and play a crucial role in disseminating the information on GRM and facilitating quick and amicable resolution of complaints. The GRC coordinator at the regional level shall coordinate information dissemination activities on GRM, and ensure that the posters providing details on GRM and contacts of grievance focal points at CCs and CSCs, GRC coordinator at regional level are posted in publicly accessible and visible places at every construction site and in every affected community. In addition, the information on GRM (leaflets, brochures), including contact details grievance focal points at CCs and CSCs, GRC coordinator at regional level, should be available at the offices of CCS, CSCs, PMCs, Akimats, CoR.

In the areas populated by minority groups meetings shall be held and information leaflets shall be provided in the linguistically appropriate manner, if the language used by the minority group is different from official language of RK.

6. PUBLIC CONSULTATIONS AND DISCLOSURE

ESIA reports were forwarded for consideration of the World Bank. At the same time primary documents were used for ESIA preparation (working draft, including approval and conclusion of territory inspection of forest husbandry and game husbandry of archaeological expertise, geological and subsurface resources use, environment and SES and etc.), census (revealing) of all land plots owners, which are under withdrawal, discussions, negotiations and social and economic researches were carried out in 2015-2016.

Table 5

No.	Document	Date of publication (updating) on site europe-china.kz
1	Framework: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT, «Otar-Uzynagash» Road Section	September 2015 – November 17, 2015
2	ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT, «Otar-Uzynagash» Road Section	June 6, 2016

On alignment designing stage: during alignment approval in August 2014 the representatives of the Committee for Roads MID RK and akimats of Almaty and Zhambyl oblasts and designers conducted consultations in Akshi village of Kurty rural district and the population, living along «Otar-Uzynagash» road section, had been invited to these hearings.

The following groups of people were invited (or participated) to the Public Hearings:

- All local population, whose interests are likely to be affected during road reconstruction; (List of participations is attached in Minutes of hearings)
- NGOs, engaged in the environmental and social areas;
- Representatives of the authorities in the area of environmental design and social issues.

The technical parameters of the road, the schedules of the proposed work, the expected benefits, the expected impacts, including the proposed mitigation measures, the number of underground crossings, design solutions for abutments, design of detours, junctions and subways, for needs of land owners and rural Farms, definition of location of production base and the landfill for removal of construction debris, consideration of possibility of using water for technical needs, from nearest ponds, information on land plots assigned to peasant farms falling into the road construction zone were presented during consultations.

The second public hearings regarding resettlement plan issue carried out on March 30, 2015 in Aydarly village.

During the second consultation/public hearings there was discussion about Documents on environment and resettlement policy management, including brochures distribution, opening the process and rights and duties explanation, compensation cost, schedule of payment and options of grievance consideration. One brochure contained the general information and general clarifications about processes and rights of owners and users, including list of all categories of compensation or other types of assistance, which can be used by people, got under influence, grievance

consideration procedures, available for people, got under influence will be described and contact information for people, got unde influence and have questions and claims will be provided.

The Project Management Consultant plays an important role in the public information process by preparing and distributing of brochures that describe the process and explain rights and responsibilities, compensation prices, payment schedule and options for dealing with complaints.

The third public hearings regarding final road project, resettlement plan, ESIA were carried out with participation of the design organizations and representatives of «Almatyzhollaboratory» and «Zhambylzhollaboratory» on May 27, 2016 in Sarybastau v. of Zhambyl district of Almaty oblast and Kenen v. of Kordai district of Zhambyl oblast accordingly.

Moreover, all identified affected people will be provided with the information brochure, considering relevant rules, rights, prices, compensations, payments and grievance redress mechanisms. In addition, these brochures and other information about the project, will be available in all regional and district akimats, where every interested person can attend and obtain information.

The public consultations indicated that, in accordance with the legislation, necessary approvals had been obtained with all interested parties: land allocation for the road, crossing and rapprochement of communications with the road with their owners, an agreement was obtained for water abstraction from local sources for technical needs.

EMP will be published on the web-site of the project “Western Europe-Western China” and relevant district akimats. EMP in English language will be presented on the web-site of WB.

All public hearings were minuted and interests of population and community were consulted according to standard of RK.

Process of Consultations at the stage of project preparation was mainly concentrated on the interview of key informers, focus group discussion, and public hearings. The program of Consultations includes the following people:

- a) Heads of households, likely to be affected
- b) Members of households
- c) Community
- d) Relevant Akimat
- e) Main concerned entities such as women, road users group, medical workers, peasant farms etc.;
- f) Public information brochure distributors

Given Public Information leaflet (PIL) will include the following useful information, regarding Resettlement Plan:

- a) Summary description of the project;
- b) Types of anticipated impact;
- c) Main policy of compensation and payment;
- d) Summary information on restoration measures of the livelihoods;
- e) When and where affected people will receive their rights
- f) Consultations and affected public and entities participation;

- g) Execution schedule
- h) Grievance redress mechanism
- i) Roles and responsibilities of local executive bodies, deputy District Akimat, RK, local representatives of the CR of the MID RK, grievance redress coordinators;
- j) Contact information (including PMC grievance redress coordinators) names, contact numbers and addresses; and Environmental Management plan;
- k) Project brief description;
- l) Main technical indicators of the existing and designed road;
- m) Scheme of designed road;
- n) Types of expected object influence on atmosphere air;
- o) Noise impact
- p) Surface and ground waters impact;
- q) Soil, land resources and mineral resources impact;
- r) Flora and fauna impact;
- s) Social sphere impact;
- t) Production waste;
- u) Impacts on cultural and historical and architectural sites.

These brochures of public information have been distributed to all attendees, as well as they were available in case of necessity in local executive bodies.

Detailed information regarding water intake, borrow pits and finds of cultural and historical monuments have been presented in the form of the conclusions and coordination with appropriate supervision authorities, and if necessary it was provided to all stakeholders.

Table 6.1 Conducted public hearings

No	Name of settlement	Date of conducting
1	Akshi v. of Kurti rural district of Zhambyl district of Almaty oblast	August 2014
2	Aidrly v. of Zhambyl district of Almaty oblast	March 2015
3	Kenen v. of Kordai district of Zhambyl oblast	May 2016
4	Sarybastau v. of Zhambyl district of Almaty oblast	May 2016

The last public hearings were held in the period from 17.04.2017 to 21.04.2017. At the hearings, design institutes, representatives of the CfR MID RoK, KazAvtoZhol NC JSC and consultants described all the successful road projects already completed with positive opinions of the State Expertise to all participants, as well as all the issues related to environmental protection, resettlement, acquisition and cultural and archaeological heritage. All the attendees had suggestions that the road reconstruction project should be started as soon as possible. Thus, they were expecting only positive effects from it. More details are available in the Minutes of Public Hearings.

7. ENVIRONMENTAL MANAGEMENT PLAN: MONITORING AND INSTITUTIONAL RESPONSIBILITY: UZYNAGASH-OTAR ROAD SECTION (km 63-162)

TABLE 7.1: PROJECT IMPACT DURING CONSTRUCTION, MITIGATION MEASURES, MONITORING AND RESPONSIBILITY

CATEGORY	POTENTIAL IMPACT	SIGNIFICANCE	LOCAL IMPACTS	MITIGATION	RESPONSIBILITY	MONITORING	RESPONSIBILITY	LONG TERM IMPACT
1. Air quality	<p>Air pollution: emissions from construction machinery and equipment, emissions from cement-concrete, asphalt-concrete plants, crushers, etc.</p> <p>Dust: from construction activity</p> <p>borrow pits and crushers</p> <p>transportation of materials</p>	Potentially significant, especially during dry season	<p>Generally, in the main area of construction, the existing roads or bypass roads;</p> <p>Potential impact on adjacent Akshatau village</p> <p>Local impacts on sites in Almaty and Zhambyl oblasts is not predicted</p>	<p>All vehicles and the equipment used in construction have to be modern, be appropriately maintained and used according to recommendations of manufacturers.</p> <p>All access and bypass roads have to be watered.</p> <p>All plants/dust-generating equipment should be in good repair and be located at distance from all sensitive zones.</p>	<p>The contractor shall bear the responsibility for implementation of mitigation measures.</p> <p>Supervision Engineer monitors the compliance with mitigation plan.</p>	<p>Regular (monthly) monitoring by licensed laboratories at designated sampling points and on-site compliance checks by Construction Supervision Consultant (CSC), Engineer and local environmental protection authorities. The sampling points will be defined by the Project monitoring programs, which will be developed by individual contractors and are required by the law.</p> <p>Parameters to be monitored follow the EHS Guidelines including: nitrogen oxides, inorganic dust, sulfur oxide, carbon, PM10, PM2.5 and carbon monoxide.</p> <p>Meteorological parameters during sampling include air temperature, emission rate, atmospheric pressure and air</p>	<p>Contractors</p> <p>Construction Supervision Consultant (CSC)/Engineer</p>	Long term impact is limited

						humidity		
2. Noise and vibration	Noise from construction machinery and equipment Noise from cement-concrete and asphalt concrete plants, crushers, etc. Transport noise on the access roads	Potentially significant	The area of construction, access and bypass roads. Potential impact on nearby residential areas. Potential impact on Akshatau village Local impacts on Almaty and Zhambyl oblasts are not predicted.	All vehicles and the equipment being in use in construction have to be modern, regularly maintained and used according to recommendations of the manufacturers. All plants/noise making equipment have to be in good repair and locate at distance from settlements. Any types of works during night time near villages and settlements of Almaty and Zhambyl oblasts should be prohibited. Speed limit of 60 km/h for all construction equipment shall be enforced.	The contractor shall bear responsibility for implementation of mitigation measures. Supervision Engineer monitors the compliance with mitigation plan.	Regular (monthly) monitoring, implemented by certified laboratory in specified places of selection of tests and Construction Supervision Consultant (CSC), Engineer and local authorities (EP and SES bodies) on-site.	Contractors (through licensed laboratories) Construction Supervision Consultant (CSC)/Engineer	No long term impact
3. Water, drainage system and floods	Pollution by a runoff from the construction sites in the areas of bridges construction is possible Infiltration of the polluted water in the water-bearing horizons Pollution of underground waters at pits/quarries (accidental spills) Pollution of surface and underground water sewage from camps	Influence is from moderate to insignificant. Places of water intakes from wells (drinking water and technical water) will be agreed with Committee on Water Resources. Pollution of underground waters is unlikely as deep soil excavation isn't planned. Pollution from construction camps can be from moderate to significant	Potential impacts on the adjacent rivers (construction of artificial bridges) Potentially – entire alignment Areas of location of construction camps	Committee for Roads, Committee on water resources and Akimats of districts in consultation with contractors. The contractor shall provide water intake only from designated sources after the receiving of special permission for water use Good management at construction sites. Areas of potential pollution of rivers will be designed to prevent accidental spills and runoff and protected by sediment basins. Sewage at construction camps will be collected in septic reservoir and transported/discharged at	Committee for Roads, Regional Departments of the Committee of water resources (permits for water intakes) and Akimats of districts in consultation with contractors. The contractor shall bear responsibility for implementation of mitigation measures. Construction Supervision Consultant (CSC), Engineer monitors the compliance with mitigation plan.	Regular (monthly) monitoring by licensed laboratories at designated sampling points and on-site compliance checks by Construction Supervision Consultant (CSC), Engineer and Regional office of the Committee on Water Resources implement control on site. Controlled parameters include: pH, density, resistance, solid residues, chlorides, nitrogen nitrogen, nitrate nitrogen, fluorine, insoluble matter, etc (e.g., all	Contractors (through licensed laboratories) Construction Supervision Consultant (CSC), Engineer Committee on water resources	Long-term impacts are possible in case of non-execution of mitigation measures

				wastewater treatment plants.		applicable feasible water parameters referenced in the EHS Guidelines)		
4. Erosion and pollution of soils and subsoil layers	Soil erosion (wind and water) due to removal of vegetation and topsoil. Pollution of the soil and subsoil layers as a result of construction and accidental spills.	Potential impacts are low to medium (excavation works and operation of borrow pits).	Local impacts are expected only in the areas of borrow pits and earthworks on embankment along the alignment.	All recommended methods on reduction and elimination of an erosion were included in the program of construction Construction methods on reduction or elimination of pollution of soils and subsoil layers. Storage of topsoil and topsoil management	The contractor shall bear responsibility for implementation of mitigation measures. Construction Supervision Consultant (CSC), Engineer monitor the compliance with design impact reduction plan.	Contractors Construction Supervision Consultant, the Engineer	Contractors Construction Supervision Consultant (CSC), Engineer the Committee for Roads	Erosion is possible if there is no proper management and prevention during construction.
5. Flora and fauna and the sensitive and protected territories	Impacts on vegetation along the alignment. Disturbance of fauna in the area of influence of the construction works	Potential impacts are Low to Medium Temporary disturbance of birds and animals in the immediate proximity to the construction sites, concrete plants, crushers or borrow pits is possible.	Moderate loss of planting. Illegal hunting is possible	Culverts, animal underpasses and bridges will serve as crossing points for wild animals. Illegal hunting around the project area will be prohibited.	The contractor shall bear the responsibility for implementation of the mitigation measures. Construction Supervision Consultant (CSC), Engineer shall monitor the compliance with design impact reduction plan.	Regular monitoring of proper vegetation and rational topsoil management shall be carried out by the Contractor. Construction Supervision Consultant (CSC), Engineer shall monitor the compliance with design impact reduction plan.	Contractors Construction Supervision Consultant (CSC)/Engineer Local Committee of forest management and wildlife	No significant long-term impact on flora and fauna is expected
6. Social / Economic / Farmers	Land loss/ land acquisition. Possibility of employment during construction Inconvenience for farmers (cattle crossing the road) Loss of trade along the road	Potential impacts are low to moderate Employment opportunities emerge for local population Potential impacts on farmers (animal husbandry)	There are cases of land (open space land) acquisition along the alignment	Land acquisition will be carried out according to the legislation of Kazakhstan and Resettlement Action Plan (RAP) Encouragement of hiring of local labor Consideration with local population on additional cattle crossings as required (October 2014) Compensation for loss of	Contractors Akimats	CfR, Akimats/local authorities and contractors	Regular monitoring of possible impacts on farmers shall be carried out by Construction Supervision Engineer Committee for Roadswill monitor the compensation payment to the affected persons.	Long-term consequences are possible if cattle crossings are not built

				income should be paid or other appropriate mechanisms will be put in place according to the legislation of Kazakhstan and RAP				
7. Historical and archeological monuments	<p>75 Objects of historical and cultural heritage were revealed within right-of-way, including:</p> <ul style="list-style-type: none"> -24 objects are archaeological sites; - 2 objects are monuments of public art; - 8 objects are modern cemeteries; -51 objects are modern memorials. 	Potential impacts on burial grounds along the road	Potential indirect impacts on archaeological sites if such are identified	<p>During road reconstruction it is required to comply with the requirement for protection area of not less than 50 m from the borders of the objects; archaeological sites shall be fenced for protection purposes. Memorial place marks will be relocated in coordination with local authorities. Other historical places outside the Right of Way, but within 2 km from the route have to be protected from plunder and destruction.</p> <p>Contractors shall observe the appropriate procedures in case of findings. According to the state procedures, works will be immediately stopped, for studying, record and excavation.</p> <p>Ensure safety of cultural resources by observing conservation zones of 50 m from the borders of the respective objects</p>	<p>The contractor will be responsible for fencing of the archaeological monuments, burial grounds and for relocation of memorial monuments</p> <p>In case of finds of additional discovery, the Contractor should immediately inform the Department of Cultural Heritage and Art of the Ministry of Culture and Sport on any found artifacts or remains, and stop all construction works and notify the authorities on cultural heritage.</p> <p>Protection of other monuments is responsibility of institutions on protection of cultural and archaeological heritage (i.e. Ministry of Culture and Sport)</p>	Construction Supervision Consultant (CSC)/Engineer, local authorities and authorized representatives of the Department of Cultural Heritage and Art of the Ministry of Culture and Sport will check compliance with this plan and procedures in case of finds discovery.	Construction Supervision Consultant (CSC)/Engineer and authorized representatives of the Department of Cultural Heritage and Art of the Ministry of Culture and Sport	Provided that all laws will be observed and the specified archaeological sites will be fenced and memorial place marks relocated, long-term influence is not expected.
8. Traffic safety	The traffic volume on the main road can affect the traffic safety	Potential impact is from low to medium	Road sections, located close to settlements and places of access/bypass roads joining the main road	<p>Speed limit enforcement</p> <p>Correct road marking and signage shall be erected</p> <p>Informing of local population.</p> <p>Responsible actions of the contractor.</p> <p>Organization of additional</p>	<p>Committee of road traffic police of the MIA of the RK</p> <p>Contractors</p>	Regular monitoring and reporting of any accidents and complaints	<p>Construction Supervision Consultant (CSC)/Engineer</p> <p>Committee of road traffic police of the MIA of the RK</p>	No long-term impacts

				<p>crosswalks, if necessary.</p> <p>Compliance with occupational safety rules during construction to minimize potential impact on local communities:</p> <p>Construction machinery shall adhere to the agreed access roads and comply with speed restrictions</p> <p>Installation of information plates in relation to threats to public safety and information about contact entities in case of emergency situations</p> <p>Prevention of impacts of dangerous materials and waste that are located at the site on the population</p> <p>Accounting of livestock which temporarily cross the site territory and road and interfere with traffic</p> <p>These measures shall be a part of the Construction Plans for Environmental Management, which shall include traffic management plans</p>				
9. Waste management	Generation of the construction debris and household wastes which are subject to landfill disposal.	Potential impact is low to medium	Potential impacts near construction camps	<p>Construction debris will be used (if technically possible) for roadbed construction.</p> <p>Household waste must be regularly exported from the section to the designated landfills</p> <p>Hazardous waste should be properly managed and discarded by licensed companies at specific landfills assigned by regions/municipalities</p>	Contractor in cooperation with local authorities	Construction Supervision Consultant (CSC)/Engineer should carry out regular monthly monitoring of sites and activities on waste management	Construction Supervision Consultant (CSC) and local authorities	Provided that all waste will be exported to the designated landfills, long-term impacts are not expected

10. Borrow pits and access roads	<p>Borrow pits:</p> <p>Local violations in environment, especially dust and noise from equipment and vehicles.</p> <p>Inconveniences for agricultural activity</p> <p>Access roads:</p> <p>Inconveniences for agricultural activity</p>	<p>Potential impacts are possible. Existing pits have been already defined, however additional borrow pits will be required:</p> <p>Locations of access roads have to be coordinated with local authorities within 2 weeks after the beginning of works.</p>	<p>Considerable local impacts near pits and access roads are possible.</p>	<p>Location of borrow pits and access roads have to be coordinated prior to the works commencement</p> <p>Only borrow pits approved by local authorities can be used, together with the plan of works on closing and reclamation</p>	<p>Contractors</p> <p>Regional offices of the Committee for construction, housing and utilities infrastructure and land resources management of the RK</p>	<p>Regular monthly and special monitoring of any influences, cases and complaints</p> <p>Where applicable, the borrow pits used to source construction materials should undergo a closure process including backfilling and revegetation activities following construction</p>	<p>Construction Supervision Consultant and local authorities</p>	<p>Provided that impacts are mitigated properly, long-term influences are not expected.</p>
11. Health and Safety	<p>Air, noise pollution, operating environment risks</p>	<p>Medium</p>	<p>As a rule, the existing and bypass roads at the main construction site;</p> <p>Potential impacts on the employees of the contractor and nearby villages</p>	<p>Compliance with health and safety requirements in accordance with the laws of the RoK and the WBG.</p> <p>Develop an integrated program of occupational health and safety measures, which will be in line with the national laws, monitoring and management systems, covering any works under the Project. The system shall include the following:</p> <p>Analysis and control of specific risks</p> <p>Requirements for personal protection equipment and compulsion mechanisms</p> <p>Assignment and introduction of areas for smoking</p> <p>Training of the entire personnel in safety using their language</p> <p>Review of contactors' plans for occupational health and safety, orientated on the standards same as the plans of the design company</p> <p>Control over development/implementation of occupational safety and safety</p>	<p>Contractor</p>	<p>Regular (daily) monitoring of personal safety among workers</p>	<p>Contractors</p> <p>Construction Supervision Consultant (CSC)/Engineer</p>	<p>No long-term impacts</p>

				<p>measures of the contractor, including compulsory reporting to CSC.</p> <p>Account, including common operating hours, lost operating hours due to accidents, description of time loss cases, admission to hospitals, fatal cases</p> <p>Instructions for exchange of information for risks, prevention of accidents, etc.</p> <p>Requirements for labor protection shall be followed by all parties, involved in the Project construction and operation.</p>				
12. Contractor's construction camps	Increase in health problems among the community and workers, particularly STD such as HIV/AIDS and STD	Medium	<p>As a rule, existing and bypass roads on the main construction section;</p> <p>Potential impacts on the nearby villages</p>	<p>Issuance of the Code of Conduct to workers, training and creation of information educational campaigns in relation to dissemination and transmission of STD and HIV/AIDS for construction workers and local communities living near the construction camps.</p> <p>Ensuring free distribution and provision of contraceptives to construction workers by the Contractor to avoid dissemination of STD and HIV/AIDS</p> <p>Place informative posters and brochures about HIV/AIDS using local languages in crowded places, at coach stations, schools and roadsides to minimize dissemination of HIV/AIDS.</p> <p>Sanitary and necessary requirements for training of construction workers in accordance with the laws of Kazakhstan, control and</p>	Contractors	Regular (daily) monitoring of personal safety among workers	<p>Contractors</p> <p>Construction Supervision Consultant (CSC)/ Engineer and local authorities</p> <p>Experts for HIV/AIDS programs</p>	No long-term impacts

				<p>assessment of HIV/AIDS program: proper storage and handling of dangerous substances and condition of wearing protective clothing for workers.</p> <p>Construction contract shall include the provision about the Contractor's obligation to provide a first aid station in the construction camp, and that qualified paramedical personnel shall be permanently full-time employed. Simple first aid materials for different minor injuries shall be available at any time for all construction sites; etc.</p>				
9. Closure process for borrow pits	Impact on soil, land, and natural resources	Medium impact	At the borrow pits and surroundings	Where applicable, the borrow pits used to source construction materials should undergo a closure process including backfilling and revegetation activities following construction	Contractor or Owner of the borrower pit	Monitoring of the closure process in line with the revegetation/reclamation plan	Supervisor Engineer and Committee for Roads shall ensure proper closure process for borrow pits have taken place following construction	

TABLE 7.2: IMPACTS DURING OPERATION; MITIGATION MEASURES, MONITORING AND RESPONSIBILITY

CATEGORY	POTENTIAL IMPACT	SIGNIFICANCE	LOCAL IMPACTS	MITIGATION	RESPONSIBILITY	MONITORING	RESPONSIBILITY
1. Air quality	Emissions from vehicles on the road Emissions from roads repair and maintenance activities	Insignificant provided that vehicles are in good operating conditions	Potential impact on adjacent sections in Almaty and Zhambyl oblasts; Other local consequences are not expected	All vehicles must meet emissions standards All the equipment used for road repair and maintenance meets emissions standards Regular monitoring near residential areas to determine the necessity for additional mitigation measures	Committee for Roads, Committee for Environmental Regulation and Control of Almaty and Zhambyl oblasts	Monitoring of air quality in line with EHS Guideline (N2, NOx, CO2, CO, C, hydrocarbon) near residential areas and other areas if necessary. Frequency of monitoring will be determined based on monitoring data on traffic intensity.	Contractors within the DLP
2. Noise	Emissions from vehicles on the road Emissions from roads repair and maintenance activities	Insignificant provided that vehicles are in good operating conditions	Potential impact on adjacent sections in Almaty and Zhambyl oblasts; Other local consequences are not expected	All vehicles must meet noise level standards Old and faulty vehicles must not be found on the road Compliance with minimum and maximum speed limits All the equipment used for road repair and maintenance meets noise level standards	Committee for Roads, Department of Environment of the Committee for Environmental Regulation and Control and Sanitary-and-Epidemiologic Institutions of Almaty and Zhambyl oblasts	Monitoring of noise levels near residential areas and other areas if necessary. Frequency of monitoring will be determined based on monitoring data on traffic intensity.	Contractors within the DLP
3. Water drainage system and floods	Stability of water sources for operation Floods, pollution of surface and ground water due to activities on the road and in services/rest	Potentially localized impact Pollution is insignificant if the road is effectively managed	There are no specific local impacts	Maintaining drainage system in a proper condition Good road management and maintenance will ensure normal	Committee for Water Resources “Kazakhavtodor” Republican State Enterprise Local executive	Monitoring of ground water and drainage water quality in line with EHS Guidelines within the right of way of the alignment Frequency of monitoring	Committee for Water Resources

	areas			watercourses	authorities	will be determined based on monitoring data on traffic intensity.	
4. Flora and fauna and protected territories	<p>Long-term impacts on animals, especially migration and movement routes.</p> <p>Disturbance of flora and fauna resulted by the use of salts and chemical substances for deicing</p> <p>There might be an increase in illegal hunting due to wider accessibility</p>	Low impact	No specific localized impacts	<p>Cattle droves will serve as passages for wild animals have been incorporated in the design</p> <p>Study the necessity of additional passages through pipes under the bridges for big mammals</p> <p>Control and prohibit illegal hunting</p>	Oblast regional inspection of the Department for Forestry and Fauna	Committee for Roads, Committee for Forestry and Fauna, as well as oblast administration	<p>Oblast regional inspection of the Department for Forestry and Fauna</p> <p>“Kazakhvtodor” Republican State Enterprise jointly with the district administration follows the necessity in additional crossing points within the alignment for mammals and others</p>
5. Social / Economic / Farmers	<p>Increase in economic activities due to the improved road.</p> <p>Opportunities for constant work within the roads maintenance</p> <p>Opportunities for business and employment in roadside service areas</p> <p>Some disturbance to the activities of farmers who were affected by land acquisition for the road construction</p>	<p>Significant economic and social benefits</p> <p>Some unfavorable consequences in relation to the farmers’ activities due to the necessity of underpasses use for movement of cattle and agricultural machinery</p>	<p>There no specific localized impacts, except for agricultural and grazing lands</p> <p>Villages along the existing road alignment</p>	<p>Hold informative activities for local communities on benefits that can be obtained from the improved alignment</p> <p>Consider additional livestock droves and passages for agricultural machinery if necessary and required (See Mitigation Measures)</p>	<p>Local executive authorities and “Kazakhvtodor” Republican State Enterprise will consider additional underpasses (bridges) in collaboration with local communities, if necessary</p> <p>Akimat/ local executive authorities</p>	<p>Monitoring of unfavorable impacts on local communities and farmers</p> <p>Affected persons will be kept in touch for checking compensation payment and other compensation forms provision</p>	Administration of districts and Almaty and Zhambyl oblasts
6. Traffic safety/ Aesthetics	<p>Increase in accidents</p> <p>Danger for pedestrians, there is not sufficient amount of pedestrian crossings</p>	Low/ medium impact level	Regular passages crossing the road alignment	Special measures in the project will decrease the accidents risk: dividing strip, good visibility, limited access and exits, guard posts, etc.	Have been incorporated in the design	Monitoring and registration of all road accidents	“Kazakhvtodor” Republican State Enterprise

				There will be several settlements near the road and a small number of pedestrians near the road or roads intersection			
7. Waste management	Waste generated from the road maintenance and rest/service areas: collection and disposal issues	Low impact	In rest and service areas	Committee for Roads should provide regular cleaning and collection of all liquid and solid wastes, as well as disposal in accordance with approved regulations and procedures. The company for road operation will be responsible for waste collection from rest/service areas	“Kazakhavtodor” Republican State Enterprise and Committee for Environmental Regulation and Control	Regular monthly monitoring of sites and wastes collection and disposal	“Kazakhavtodor” Republican State Enterprise

MINUTES OF PUBLIC HEARING

Public Hearings conducting

Sarybastau village of Zhambyl district

Date: April 17, 2017, 4:00 pm

Venue: Building of secondary school of Ungirtas rural district of Zhambyl district of Almaty oblast

Public hearings have been organized by: Akimat of Zhambyl district of Almaty oblast and CfR MID RK, «Kazavtozhol» NC JSC

Information about public hearings has been provided to the public through: Announcement

Participants: residents of Zhambyl district, representatives of local executive authorities, representatives of CfR MID RK, «Kazavtozhol» NC JSC, PMC «KazdorNII/Sapa-SZ», «Kazdorproject» LLP (list of participants is attached)

Agenda:

«Familiarization of the public with «Otar-Uzynagash» project, familiarization of locals with developed technical decision of road reconstruction project and documents on Environmental and Social Impacts Assessment, Resettlement Action Plan and conclusion of Archeological and cultural heritage»

1. Election of the Public Hearings Chairman;
2. Election of the Public Hearings Secretary;
3. Summarization of the public decision on the subject of the hearings;
4. Time limit on speeches is 3 minutes.

Based on the majority of votes:

A.Daniyarov, manager of SE «Zhambyl district department of HCA, passenger transport and roads» of Almaty oblast was elected as Chairman of Public hearings.

E.Daurenbayev, senior specialist of administrative office of akim of Ungirtas rural district of Zhambyl district of Almaty oblast, was elected as secretary of public hearings.

Speeches made by:

1. A.Daniyarov, manager of SE «Zhambyl district department of HCA, passenger transport and roads» of Almaty oblast having greeted all participants, presented to locals the representatives of CfR MID RK, «Kazavtozhol» NC JSC, PMC «KazdorNII/Sapa-SZ», «Kazdorproject» LLP.
2. The objective of the public hearings is discussion of «Otar-Uzynagash» project, familiarization of local residents with developed technical decisions of road reconstruction project and documents on Environmental and Social Impacts Assessment, Resettlement Action Plan and conclusion of Archeological and cultural heritage».

1. Representative of «Kazavtozhol» NC JSC Akyltayev N.

After greeting everyone, he thanked them for participation in the public hearings. Further he explained summary of Terms of Reference for road reconstruction project development. He noticed the importance of the public hearings and told, that road construction is the main component of new economic policy of the country «Nurly Zhol» and the reconstruction and new construction will transform the existing road.

2. Main Engineer of «Kazdorproject» LLP Kulinov I.

He made a presentation showing the main technical details of the project for improvement of «Otar-Uzynagash» road project km 63-101 and km 101-143, which is under the design completion stage at the moment.

3. Representative of PMC «KazdorNII/Sapa-SZ», Serdaliyev K.

After greeting and thanking everyone for their participation in the public hearings, he noted the importance of public hearings and said that the main element for economic activities impact on the environment is indicators of environmental situation and social sphere.

In order to comply with the environmental legislation of the Republic of Kazakhstan and other legislations of RK and decrease adverse impact on the environment and health state of the population that can be caused by the planned activities, environmental and social management plan, mitigation measures for impacts managements and conclusion of archeological and cultural heritage are provided.

1. Resident of village

Question: How many cattle passes on «Otar-Uzynagash» section km 101-143?

Answer: At this road section the project stipulates 9 cattle passes.

Question: How many cattle passes on «Otar-Uzynagash» section km 63-101?

Answer: At this road section the project stipulates 7 cattle passes.

2. Resident of village.

Question: What dimensions are cattle passes?

Answer: According to valid standard the dimensions of cattle passes are: height 2,5 m and width 4m.

Question: Will the local population be employed during road construction?

Answer: The project stipulates employment of local population during road construction.

3. Resident of village

Question: What distance is between cattle passes?

Answer: According to valid standard average distance is 10-40 km depending on density of settlement and cattle pass number.

4. Resident of village

Question: When will road construction starting date and completion date be?

Answer: Construction start – the end of 2017, completion – end of 2020 is planned.

Public Hearings Conclusions

Based on the results of considerations and discussion of the developed technical solutions on road reconstruction project and documents on ESIA, Resettlement Action Plan and conclusion of archeological and cultural heritage based on «no objection» and upon consensus in regard to the fact that the planned activities will not significantly affect environment and health state of the population adversely, the following has been summarized:

The developed «Otar-Uzynagash» road reconstruction project was clarified and approved with the public and population of Zhambyl district of Almaty Oblast.

Public Hearings Chairman:

**Manager of SE «Zhambyl district department
of HCA, passenger transport and roads»
of Almaty oblast Daniyarov A.**

signature

Public Hearings Secretary:

**Senior Specialist of Administrative office
of Akim of Ungirtas rural district
of Zhambyl district of Almaty oblast Daurenbayev E.**

signature

MINUTES OF PUBLIC HEARING

Public Hearings conducting

Kenen village of Kordai district

Date: April 18, 2017, 3:00 pm

Venue: Building of assembly hall of cultural centre of Kenen rural district of Kordai district of Zhambyl oblast

Public hearings have been organized by: Akimat of Kenen of Kordai district of Zhambyl oblast, «Kazavtozhol» NC JSC

Information about public hearings has been provided to the public through: Announcement

Participants: residents of Kordai district, representatives of local executive authorities, representatives of CfR MID RK, «Kazavtozhol» NC JSC, PMC «KazdorNII/Sapa-SZ», «SK Engineering» LLP (list of participants is attached)

Agenda:

«Familiarization of the public with «Otar-Uzynagash» project, familiarization of locals with developed technical decision of road reconstruction project and documents on Environmental and Social Impacts Assessment, Resettlement Action Plan

1. Election of the Public Hearings Chairman;
2. Election of the Public Hearings Secretary;
3. Summarization of the public decision on the subject of the hearings;
4. Time limit on speeches is 3 minutes.

Based on the majority of votes:

Zh.Aiypova, senior specialist of administrative office of akim of Kenen rural district of Zhambyl oblast was elected as Chairman of Public hearings.

B.Yeraliyeva, specialist of administrative office of Kenen rural district of Kordai district of Zhambyl oblast was elected as secretary of public hearings.

Speeches made by:

1. Zh.Aiypova, senior specialist of administrative office of akim of Kenen rural district of Zhambyl oblast having greeted all participants, presented to locals the representatives of CfR MID RK, «Kazavtozhol» NC JSC, PMC «KazdorNII/Sapa-SZ», «SK Engineering» LLP.
2. The objective of the public hearings is discussion of «Otar-Uzynagash» project, familiarization of local residents with developed technical decisions of road reconstruction project and documents on Environmental and Social Impacts Assessment, Resettlement Action Plan.

1. Main Engineer of «SK Engineering» LLP project

After greeting everyone, he thanked them for participation in the public hearings. Further he explained summary of Terms of Reference for road reconstruction project development. He noticed the importance of the public hearings and told, that road construction is the main component of new economic policy of the country «Nurly Zhol» and the reconstruction and new construction will transform the existing road.

He made a presentation showing the main technical details of the project for improvement of «Otar-Uzynagash» road project, which have been completed at this moment and received positive conclusion from state expertise.

2. Representative of PMC «KazdorNII/Sapa-SZ», Serdaliyev K.

After greeting and thanking everyone for their participation in the public hearings, he noted the importance of public hearings and said that the main element for economic activities impact on the environment is indicators of environmental situation and social sphere.

In order to comply with the environmental legislation of the Republic of Kazakhstan and other legislations of RK and decrease adverse impact on the environment and health state of the population that can be caused by the planned activities, environmental and social management plan, mitigation measures for impacts managements and conclusion of archeological and cultural heritage are provided.

1. Resident of Kenen village

Question: Will the local population be employed during road construction?

Answer: The project stipulates employment of local population during road construction.

2. Resident of Kenen village

Question: When will road construction starting date and completion date be?

Answer: Construction start – the end of 2017, completion – end of 2018 is planned.

3. Resident of Kenen village

Question: What dimensions are cattle passes?

Answer: On this section the project stipulates 2 standard cattle passes: height 2,5 m and width 4m.

Public Hearings Conclusions

Based on the results of considerations and discussion of the developed technical solutions on road reconstruction project and documents on ESIA, Resettlement Action Plan and based on «no objection» and upon consensus in regard to the fact that the planned activities will not significantly affect environment and health state of the population adversely, the following has been summarized:

The developed «Otar-Uzynagash» road reconstruction project was clarified and approved with the public and population of Kordai district of Zhambyl Oblast.

**Public Hearings Chairman:
Senior specialist of Administrative office
of Akim of Kenen rural district
of Kordai district of Zhambyl oblast Aiyпова Zh.**

signature

**Public Hearings Secretary:
Specialist of Administrative office
of Akim of Kenen rural district
of Kordai district of Zhambyl oblast Yerallyeva B.**

signature