KYRGYZ REPUBLIC
COMMUNITY DEVELOPMENT AND INVESTMENT AGENCY

SUSTAINABLE RURAL WATER SUPPLY AND SANITATION
DEVELOPMENT PROJECT

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Rehabilitation of water supply system
Achyk-Suu subproject

September 2018
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Executive Summary

Environment and Social Management Plan (ESMP) for «Rehabilitation of water supply system of Achyk-Suu subproject» is developed in accordance with the Environmental and Social Management Framework (ESMF) elaborated under Sustainable Rural Water Supply and Sanitation Development Project financed by the International Development Association and the Government of the Kyrgyz Republic.

ESMP includes the procedures and arrangements of providing policy of the World Bank on safeguards and the law of the Kyrgyz Republic on Environmental Protection.

This ESMP provides with information about geographical coverage of the project, number of living people, the state of environment and seismic hazard in the project implementation area as well as location and information about selected facilities and their technical conditions.

The document contains information about decisions taken on holding capital repair works with description of main construction operation.

One of the key chapters of ESMP is the impact of the project on environment and its mitigation measures. In this chapter the ways and methods of decreasing the adverse impact of the project on environment are described. Besides it includes the safety regulations and requirements to be kept in the working with asbestos containing materials which can adversely effect on the health of human being.

Types of impacts on the surrounding and social environment during the construction and operation of buildings are given in the Chapter 4, which describes about the proposed effects and mitigation measures on each environmental and social parameters (soil, water resources, atmospheric air, waste generation, noise effect, safety and health of employees and people etc.) indicating responsible people and organizations. In order to monitor the impact of construction works on the environment and to take appropriate measures Chapter 5 has been developed, which specifies the parameters and methods of monitoring of the state of environment.

ARIS will carry out monitoring using the checklist "Construction Sites Monitoring Checklist» (Annex 1 to ESMP).

Document also describes the following information about:

- the potential impact of the project on the social environment which improves the conditions of workers and population in whole;
- the existing legal framework, regulating the protection and use of natural resources;
- public hearings for population in the implementation of the project;
- Grievance redress mechanisms, Beneficiary Feedback Mechanism.

The requirements indicated in this ESMP are the mandatory for all contractors.
1. INTRODUCTION. DESCRIPTION OF THE PROJECT AREA, WATER SUPPLY SYSTEM.

Introduction
The objective of Sustainable Rural Water Supply and Sanitation Development Project (SRWSSDP)¹ is to improve access and quality of water supply and sanitation services in the Participating Rural Communities; and to strengthen capacity of the Recipient’s institutions in the water supply and sanitation sector.

An Environmental and Social Management Framework (ESMF) for the project consistent with Environmental Assessment (OP 4.01) requirements was prepared and found satisfactory by the World Bank. The ESMF public consultations were held on February 11, and June 23, 2016 in Bishkek and February 16, June 24 2016, in Osh –including participants from each target rural community. The final ESMF documents in both Russian and English languages were disclosed in country and on the Bank Infoshop on July 4, 2016 and July 6, 2016 respectively. Each activity to be financed under the project will be reviewed for safeguards risks in line with OP4.01, and must obtain the clearances required by Kyrgyz national regulations.

The ESMF covers procedures and mechanisms that will be triggered by the Project to comply with the World Bank Policy 4.01 Environmental Assessment, legislation and normative and legal acts of the Kyrgyz Republic governing preparation and implementation of environmental protection requirements.

The present Environmental and Social Management Plan (ESMP) outlines environmental impacts and mitigation measures related to the rehabilitation of water supply investments in Achyk-Suu subproject. ESMP activities will be included in bidding and contract documents as integral part of both construction and technical supervision phases.

Description of the project area

Achyk-Suu subproject belongs to Kashka-Suu Aïyl Okmoty of Chon-Alai rayon in Osh Oblast. The village is 25 km to Rayon Center Daroot Korgon and 265 km from Osh city. The closest railway is in Osh city. There are 509 households with total population of 2412 people in the village. The number of cattle is 1407, small cattle – 10368, horses – 467.

The following municipal objects are located in the village: secondary school, medical center, and kindergarten.

According to data of “Daroot Korgon” weather station the climatic characteristics of the region are accepted as follows:

- Average temperature of the year: +2.9°C
- Absolute minimum of temperature: -35°C
- Absolute maximum of temperature: +34°C
- Average maximum of temperature of the hottest month: +24.7°C
- Average minimum of temperature of the coldest period: -14°C
- Seismicity of the region: 9 points

¹ In accordance with the proposal of ARIS and Department of Water Supply and Sanitation (DWSS) the project name was changed from RWSSP-3 (Third Rural water supply and sanitation project) on SRWSSDP (Sustainable Rural Water Supply and Sanitation Development Project)
Water supply system

In 1984 a pair of working and reserve wells No. 2309, 2310 were drilled 0.8 km to the south of the Kyzyl-Suu River on the right bank of the Achyk-Suu stream 10-11 km to the north of “Achyk-Suu” village to supply water to the village. The output of the wells is up to 65 m$^3$/h (18 l/s), mineralization is 0.9 g/l, and total hardness is 10.05-10.15 mg-equ/l. At present the supply lines from the wells are destroyed, no signs of the wells were detected during exploration.

Currently, the population uses for their own needs following non-centralized sources of water supply:

- water from the Achyk-Suu stream (in summer)
- water from Jan-Bulak spring No. 3 located 2.6 km to the south of the village and equipped with a pipeline 63 mm in diameter

Water from the spring goes to 4 water-supply columns which must supply the upper part of the village with water; however due to presence of air in the system they operate unreliably. Besides that, in winter the spring freezes up and the system does not operate for about 5 months a year.

The water from this source does not pass any cleaning and disinfection and there are no water storage tanks.

Thus, at the time of the survey, the village population's access to drinking (tap) water is 0%.
Scheme of planned water supply system.
2. SCOPE OF WORKS AND IDENTIFICATION OF ASSOCIATED ENVIRONMENTAL AND SOCIAL IMPACTS

Planned activities in Achyk-Suu village:

1. Drilling 2 boreholes (1 - working, 1 – stand-by)
2. Construction of building for pumping station with water metering unit and intake chamber V=20m³
3. Construction of reservoir V=2000m³ and chlorination plant at the highest spot of the village.
4. Construction of fence (for reservoir area) L= 197, 0 m.
5. Construction of distribution network L=9806, 0 m.
6. Construction of main L=11359.0 m.

The estimated period of construction and rehabilitation works is 18 months. The defects liability period is 12 months.

Achyk-Suu subproject will not finance any activity with significant or irreversible environmental impacts, and therefore has triggered OP 4.01 with classification as Environmental Category "B."

Handling of asbestos-containing materials (ACM).

Visits to the Achyk-Suu sub-project site showed that the existing water distribution network is made of asbestos cement (AC) pipes. During water system rehabilitation, existing asbestos cement pipes will not be removed. Every effort will be made to leave the old pipes in the ground. New pipelines will be installed parallel to the existing ones. In the event of removal of asbestos cement pipes asbestos contained materials waste will be collected, transported and finally disposed by applying special protective measures in accordance with the hazardous waste handling standards. See Section 6 for detailed information on disposal of asbestos-containing materials.

Environmental oversight

During activities implementation, safeguard specialist of ARIS will have overall supervision responsibility for ensuring that the measures indicated in the ESMP are being properly performed. Safeguard specialist and engineers of ARIS in collaboration with the local authorities and the Kyrgyz Forestry and Environment Preservation Agency will perform the activity’s environmental monitoring during both construction and operation phases.

The subproject will not finance Category-A activities, will not support activities that target natural habitats or protected sites, and will not finance those activities that can cause a significant loss or degradation of any significant natural habitat.

SOCIAL RISKS AND IMPACT MITIGATION

Social screening and mitigation

During the social screening, the main risks were identified:

- possible industrial injuries of the local population and workers;
- community dissatisfaction regarding the suspension of utility services;
- involvement of women in the project;
- problems with connections to the water supply network of the poor;
- potential social resistance to tariff increase
- limited capacities of local authorities
- actual delay in implementation

Section 4 describes social impact minimization measures, institutional responsibility and monitoring.

There are no significant social risks in this subproject. The activities planned under this subproject will have more positive social consequences.
An integral part of the strategy is to inform and take into account the views of communities and persons affected by the project. Thus, one of the main tools to prevent social risks / conflicts is the Beneficiary Feedback Mechanism, through which information is exchanged, is taken into account the views of communities at all stages of the project. Below full information on BFM is provided.

Demographic data. The summative demographic data is as following: target population is 2412 people, the total number of households is 509. The main business activities are farming, agriculture. Women in the village are housewives mostly. Ethnic composition: 100% are Kyrgyz. The risk of interethnic conflict is excluded.

In addition to information-provision, ARIS will collaborate with the Ayil Okmotu and the local community organizations dispute resolution set-ups such as court of aksakals overseen by the AO. The subproject will not impact cultural or national heritage monuments.

Involuntary Resettlement. Land allotment and resettlement issues are covered by the World Bank OP 4.12 Involuntary Resettlement. As for involuntary resettlement, no significant impacts that could require land allotment, economic displacement or physical resettlement have been identified. Resettlement policy framework (RPF) was prepared for the project. The RPF public consultations were held on including participants from each target rural community. The RPF provides guidance on the preparation of resettlement action plans (RAPs) during project implementation. The final document is published on ARIS site http://www.aris.kg/ru/proekt_aris/realizuemye_proekty/proekt_ustoichivogo_razvitija_selskogo_vodosnabzhenija_i_sanitarii/politika_pereselenija

The Resettlement Policy Framework (RPF) provides guidelines for development of appropriate mitigation measures, including compensations for mitigation and reparation of the damages due to impacts of land acquisition and resettlement, caused by future project activities.

RPFs are applicable to all RWSSDP sub-projects, which may have impacts in the form of:

- Resettlement or loss of shelter;
- Loss of assets or access to them;
- Loss of income sources or means of subsistence, regardless of the fact, whether people affected by the project impact (PAPs) are forced to resettle.

In case of allotment of land, relocation or damage to the assets of the population, a Resettlement Action Plan will be prepared guided by the RPF. Section 3.2 of RPF describes eligibility criteria and right to compensation.
### INSTITUTIONAL RESPONSIBILITY

<table>
<thead>
<tr>
<th>№</th>
<th>Responsible Party</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ministry of Finance</td>
<td>In case of lack of replacement land, the Ministry of Finances will pay compensation for land and assets of PAPs as stipulated in the RAP.</td>
</tr>
<tr>
<td>2</td>
<td>Municipalities of subprojects</td>
<td>Inform of stakeholders.</td>
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<tr>
<td></td>
<td></td>
<td>Fulfill the provisions of agreement.</td>
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<td></td>
<td></td>
<td>Render of assistance during public consultations.</td>
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<td></td>
<td></td>
<td>Grievance redress in the course of RPF/RAP implementation.</td>
</tr>
<tr>
<td>3</td>
<td>Safeguards Specialist/Consultant</td>
<td>• Consultations with PAPs</td>
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<tr>
<td></td>
<td></td>
<td>• Identification of PAPs, examination of documents of entitlement and list of affected assets</td>
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<tr>
<td></td>
<td></td>
<td>• Preparation of RPF and RAPs allowing for the fact that all expenses for acquisition of land and resettlement will be included in the budgets of the Ministry of Finance</td>
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<tr>
<td></td>
<td></td>
<td>• Disclosure of information about RPF and RAP</td>
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<td></td>
<td></td>
<td>• Implementation of RPF and RAP</td>
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<td></td>
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<td>• Conduction of socio-economic survey of PAP</td>
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<td></td>
<td></td>
<td>• Monitoring</td>
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<td></td>
<td></td>
<td>• Submission of information about RPF and RAP to the World Bank</td>
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<td></td>
<td></td>
<td>• Grievance Management</td>
</tr>
<tr>
<td>4</td>
<td>Grievance Redress Mechanism (Beneficiary Feedback Mechanism (BFM))</td>
<td>Obtaining prompt, objective information, evaluating and reviewing appeals (applications, proposals, complaints, requests, positive feedbacks)</td>
</tr>
</tbody>
</table>

No trees owned by the municipality will be cut down until all necessary permits obtained. In the event of cutting municipal trees, there will be compensation in the form of seedlings (the amount for compensation is in the BoQ). The contractor will give seedlings to AO, and they will be planted in the places where the AO points out.

In the event of cutting private trees, the RAP will be prepared according to OP 4.12. If there will be cutting of trees of several owners, it will be possible to prepare a single RAP for subproject. As for the impacts on private properties, no private land will be affected because all water transmission and distribution lines will be installed on municipal land.

Conclusion: some private trees will definitely need to be cut; private lands will not be affected.

**Grievance Redress Mechanism (Beneficiary Feedback Mechanism (BFM))**

ARIS use an information system for management of appeals, including complaints of citizens – Beneficiary Feedback Mechanism (BFM).
The main objective of the beneficiary feedback mechanism is the process of obtaining prompt, objective information, evaluating and reviewing appeals (applications, proposals, complaints, requests, positive feedbacks), at all stages of CSP implementation that come from citizens / beneficiaries to further improve their work. Strengthen communication with project beneficiaries and provide channels for feedback, and identify and address problems, increasing transparency and accountability.

Dissemination of BFM:
• presentation of information by the BFM specialists to local authorities, AO, deputies of the local kenesh;
• presentation of information at public hearings, trainings conducted by ARIS staff, the BFM team conducts an entire information campaign in the communities;
• banners of BFM are placed on social facilities (schools, kindergartens, FAP);
• there are banners in district administrative buildings;
• there is BFM section on the official site.

All appeals and complaints from citizens received under the SRWSSDP delivers delivers to the corporate system for further processing and follow-up.

Channels for submitting an appeal.

| 1. Hotline: +996(550)70-05-22, (calls are received around the clock, the conversation will be recorded); |
| 2. WhatsApp: +996(770)70-05-22, (instant messaging system for mobile devices with voice and video support); |
| 3. Social networks (Facebook MOC ARIC); |
| 4. Web-site address: www.aris.kg; |
| 5. Verbal or written appeals received during the on-site working meetings; |
| 6. Incoming correspondence via courier to ARIS reception; |
| 7. Incoming correspondence by e-mail: bfm@aris.kg |
| 8. CO ARIS tel.: +996 (312) 301805 (reception) |
| 9. CO ARIS address: 102 Bokonbayeva St., Bishkek, Kyrgyz Republic |

1. Appeals are recorded in the log of BFM incoming correspondence and are considered if the following information is present:
   • Full Name;
   • address of registration and residence or telephone number;
   • content of the appeal;
   • other reference information.

1.1 In case if the appeals were received in the absence of any of the above data, it is recorded in the log of incoming correspondence of the BFM and the sender is notified, and the results of the appeal will be published in the media at the local level, on the ARIS website or made public at the session of the AK.

2. Appeals are entered into the BFM configuration in the 1C system for analysis and monitoring.

3. Appeals may be submitted anonymously. Confidentiality shall be insured in all cases, even if the applicant is known, in order to avoid conflicts of interested parties.

Receiving an appeal. When receiving an appeal, the following is determined:
• Type of appeal
• Category of appeal
• Persons responsible for review and execution of appeal.
• Deadline for appeal resolving.
• Agreed actions

After the type of treatment is determined, the BFM specialist registers details regarding the treatment in the incoming correspondence journal, and then in the BFM configuration of the 1C system.

The applicant will receive a notification in which the BFM specialist will inform by phone or through other BFM channels:
• Full Name of the executor (project officer) to whom the appeal was forwarded;
Deadline for execution (minimum 10 days, maximum 30 days from the registration date);
The deadline and actions are determined in accordance with the ARIS instructions for handling appeals.

Notification. Notification will be registered in the outgoing correspondence log. BFM specialist will assist the applicant at all stages of considering his appeal and ensure that his appeal is properly handled.

In case if the citizen / beneficiary is not satisfied with the decision resulting from the consideration of the appeal, he / she has the right to appeal claim. Appeal claim is considered by the special ARIS Review Committee on consideration of appeals. ARIS Executive Director will form the Review Committee for consideration of appeals from project managers and heads of departments, who will conduct hearings of appeal claims. The Appeals Review Committee will consist of 15-17 persons, of which 2 are BFM members and 2 are persons independent from the project implementation units and the Government of the Kyrgyz Republic.

After review of the appeal, the citizen / beneficiary unsatisfied with the solution received, has the right to appeal the decision in a judicial procedure.

3 ENVIRONMENTAL LEGISLATION

The main normative documents governing the environmental protection activities under Chelpek subproject are:

- **The Constitution of the Kyrgyz Republic 2010**
- **The Law “On Environmental Protection”**
- **Law on Environmental Expertise**
- **The Law of KR “On Water”**

Over laws and normative acts on environmental protection can be found at [http://www.nature.gov.kg/lawbase/index.htm](http://www.nature.gov.kg/lawbase/index.htm).

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3 The documents below are described in the main ESMF document for the Sustainable Rural Water Supply and Sanitation Development Project.

4 Dated June 16, 1999 #53 (with amendments and additions dated February 4, 2002 #22; June 11, 2003 # 101; August 11, 2004 # 113; August 6, 2005 # 124; April 27, 2009 # 131).

5 Dated June 16, 1999 # 54 (with amendments and additions dated June 11, 2003 # 102; February 26, 2007 # 21)

6 Dated May 8, 2009 # 151 (with amendments and additions dated March 6, 2012 # 19)

7 Dated January 14, 1994 # 1423- XII
# 4 ENVIRONMENTAL AND SOCIAL MANAGEMENT/MITIGATION PLAN

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<th>Environmental and Social Elements</th>
<th>Impacts and risks</th>
<th>Proposed mitigation measures&lt;sup&gt;8&lt;/sup&gt;</th>
<th>Institutional responsibility for mitigation (Cost of mitigation activities)&lt;sup&gt;9&lt;/sup&gt;</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction period</td>
<td></td>
<td></td>
<td>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</td>
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</tr>
<tr>
<td><strong>Physical Environment</strong></td>
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<td></td>
<td><strong>Criteria / specifications to be incorporated into bidding and contract documents.</strong>&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks.</td>
</tr>
<tr>
<td><strong>Noise</strong></td>
<td><em>During the construction phase</em>, sources of temporary noise will be the engines of construction and road equipment. Noise levels can also increase temporarily along the materials supply routes.</td>
<td>The use of noise protection measures should be provided, and the equipment will be equipped with a silencer. Application of vibrator equipment compliant with standards and vibration- and noise-protection equipment. Equipment will work from 08.00 a.m. to 06.00 p.m. only, no operations will be carried out during night hours. During operations, covers of engines and generators, air compressors and other driving mechanisms should be closed; equipment should be located at the maximum distance from residential premises. Noise levels during the construction phase, considering that day-time operations only are planned, will not exceed the existing sanitary standards on maximum and equivalent noise levels. There will be no sources of noise <em>during the operational phase</em>.</td>
<td>Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item.</td>
<td>Representative of contractor is responsible to execute the mitigation measure. Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</td>
</tr>
<tr>
<td><strong>Water and soil pollution</strong></td>
<td>Pollution of water by using of machinery (fuel shedding), refuse</td>
<td>Use proper agreed placement sites only. Basic proper construction norms and standards applied during the construction period.</td>
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<sup>8</sup> Activities requiring financial expenses are to be included in BoQ.

<sup>9</sup> Cost of mitigation activities is defined by a contractor in relevant items in bidding documents.
| **Air Quality (dust generation)** | Dust emissions during retrofitting activities would be minor and temporary. Air pollutant emissions are expected from:  
- motor vehicles;  
- electric arc welding;  
- levelling;  
- drilling | Dust prevention measures and good housekeeping practices such as water spraying to prevent dust and use of curtains and screening of the construction area. Use of masks, work gloves and clothes by workers. All vehicles delivering dusty construction materials to the site or removing debris will be enclosed and covered to prevent release of dust. Limitation of the speed of vehicles and selection of relevant transportation routes for minimization of impact on the receptors sensitive to dust. Equipping the machinery transporting granular materials with removable canvas covers. Supply of cement to construction sites in pre-pack hermetic packages. The equipment will be used in certain operations only and will not be present at the construction site all the time. Operation of vehicles with defective fuel system exceeding the norms of toxicity of exhausted gases is not allowed. Burning of construction and domestic waste at working area is prohibited. | Criteria / specifications to be incorporated into bidding and contract documents. Irrigation of dirt roads with water (wet dust suppression of in-site roads and sites) is considered as a separate cost item in bill of quantities. |
It is needed to ensure cleanliness of adjacent area, not allowing construction waste to minimize dusting and contamination.

All emissions will be temporary and short in duration. It should be noted that construction of facilities will not be simultaneous, but will be carried out consecutively on a step-by-step basis—one facility after another.

Therefore, air pollutant emissions during the construction phase will not exceed the existing standards.

No pollutant emissions will take place during the operational phase.

| Use of calcium hypochlorite (bleach powder). | During construction, no chlorine will be used, so the impact is ruled out. During the operational phase, there can be an impact on people who will work with chlorine directly (in the work area). INSTRUCTION On Purchase, Sale, Storage, Accounting and Transportation of Highly Toxic Substances, approved by Resolution #513 of the Government of the Kyrgyz Republic of September 21, 1999 | Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item. |
| Water resources | Borehole drilling, Disturbance of surface-water flow. Pollution of groundwater, Overwatering of soil | During the construction phase, there will be no direct impact on surface waters. Refuse from excavations beside groundwater occurrence. Working areas with machinery, cement mixers, and fuel tanks are located beyond water protection zones. During the construction phase, there will be no discharges to any water sources. During the operational phase, there will be no impact on surface waters | Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item. Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks. Representative of contractor is responsible to execute the mitigation measure. Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight. |
| Construction waste | Contamination of adjacent area, soil, water resources | Separation of all types of waste streams, reuse and recycling wherever possible  
Disposal of wastes that cannot be reused or recycled, transport and disposal of wastes at designated landfill site and in cooperation with the local waste management company; no open burning  
Mineral waste from construction and dismantling works should be separated from common waste and organic, liquid and chemical waste through sorting and keeping in special containers.  
All documents on waste removal and disposal should be maintained properly as a proof of appropriate management of waste at the site.  
As for domestic waste, installation of collection tanks and timely removal of waste should be arranged by local SES agencies. | Criteria / specifications to be incorporated into bidding and contract documents.  
It is not considered as a separate cost item |
| Construction hazardous waste | Some construction debris may contain asbestos | Detailed impact mitigation measures are discussed in Section 6. | The contractor needs to train their workers on how to assess presence of asbestos containing materials and to establish a procedure of its safe removal using proper protection equipment, storage without breaking in air-tight containers and management by an authorized agency or company.  
Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks. Representative of contractor is responsible to execute the mitigation measure.  
Safeguard specialist and infrastructure engineer of ARIS |
| Occupational Health and Safety | Industrial accidents | All works will be carried out through safe and disciplined methods to minimize negative impact from industrial processes on population and environment. Individual protective means should meet safety standards (obligatory application of helmets, protective face masks, when needed, protective glasses, safety belts and boots). **The contractor should provide workers by:**  
- drinking water during working hours;  
- portable bio-toilet (for brigade of more than 8 people);  
- medical first-aid kits for each construction site;  
- noiseless earplugs.  
Compliance with all fire safety requirements in accordance with the Law of the KR dated June 7, 2016 № 78 “On fire safety”.  
Appliance of properly functioning equipment.  
Compliance with the approved labor safety instructions.  
Sites will be provided with proper information boards and signs informing the workers about the rules and norms of works to be followed. | Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost item | Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks. Representative of contractor is responsible to execute the mitigation measure. Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight. |
<p>| Chance findings | Damage and degradation of site structures | In case of chance finds or other significant discoveries during excavation works stop all construction works and inform relevant authorities prior to proceeding | Contractor and Site Supervision Engineer. |
| Setting up of construction site and removal of site | Possible disturbances decommissioning | Plan to decrease disturbance to surroundings and neighbors (including plans to ensure proper traffic management on access roads to site) | Negligible costs Contractor costs | Will be further defined with specifications in the design documents |</p>
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Fencing off the site or access to site with proper safety signs</strong>&lt;br&gt;After completion of works, site will be restored to previous conditions and all wastes will be cleared in line with the provisions of this ESMP, all machinery will also be removed from site.</td>
<td></td>
</tr>
<tr>
<td>Field technical supervision engineer of ARIS is responsible to monitor and supervise the activities, including monitoring of potential environmental risks. Representative of contractor is responsible to execute the mitigation measure. Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.</td>
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<tr>
<td><strong>Tree and shrub removal during pipeline installation</strong>&lt;br&gt;Trees and shrubs will be cut down or trimmed along the pipeline routes only after all necessary permits from local environmental agencies are obtained, in coordination with local authorities and with due regard to compensatory planting. All permits will be obtained before the start of construction.&lt;br&gt;In the event of cutting municipal trees, there will be compensation in the form of seedlings (the amount for compensation is in the BoQ). The contractor will give seedlings to AO, and they will be planted in the places where the AO points out.&lt;br&gt;In the event of cutting private trees, the RAP will be prepared according to OP 4.12. If there will be cutting of trees of several owners, it will be possible to prepare a single RAP for subproject.</td>
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<tr>
<td>Costs are included in EBOQ (Environmental Bill of Quantities)&lt;br&gt;Contractor</td>
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<tr>
<td><strong>Topsoil removal</strong>&lt;br&gt;Topsoil removal, transportation, stockpiling and storage at designated location for further use in rehabilitation of disturbed lands.</td>
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<tr>
<td>Costs are included in EBOQ (Environmental Bill of Quantities)&lt;br&gt;Contractor</td>
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<tr>
<td><strong>General issues</strong>&lt;br&gt;Regular inspections&lt;br&gt;Trainings for staff (workers), safety trainings, other trainings&lt;br&gt;WB safeguards trainings for local authorities, contractors and communities will be continued under SRWSSDP.</td>
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<tr>
<td>Contractor&lt;br&gt;Local authorities and communities (AO, CDWUU)&lt;br&gt;ARIS</td>
<td></td>
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<tr>
<td><strong>Social aspect</strong></td>
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</tr>
<tr>
<td><strong>Safety of population</strong>&lt;br&gt;Industrial accidents&lt;br&gt;Local inspections controlling construction works and environmental safety and local population should be properly notified on forthcoming project works.</td>
<td></td>
</tr>
</tbody>
</table>
| Contract organizations<br>Criteria / specifications to be incorporated into bidding and contract documents. | ACSD<br>Field technical supervision engineer of ARIS is responsible to monitor and supervise the }
Local communities will be properly notified on works by means of publications and/or notices in mass media and/or bill boards in public places (and at work sites).

All permission required by legislation for use of waste landfill, as well as permissions from sanitary inspection etc. in construction and rehabilitation works at this site, have been obtained.

The contractor should:

- organize parking of equipment at a safe distance from social facilities (schools, kindergartens, hospitals, etc.);
- protect dug trenches with warning signal strips;
- install road signs, safety signs for pedestrians and drivers;
- provide residents with a sufficient number of safe bridgeheads (through trenches).

It is not considered as a separate cost item activities, including monitoring of potential environmental risks.

Representative of contractor is responsible to execute the mitigation measure.

Safeguard specialist and infrastructure engineer of ARIS are responsible for overall oversight.

<table>
<thead>
<tr>
<th>Aesthetics and landscape</th>
<th>Landscape alterations</th>
<th>Use of landscaping methods; minimization (where possible) of major excavations (deep cuts, high fills)</th>
<th>Contractor</th>
</tr>
</thead>
</table>

Demolition of buildings, resettlement in connection with land withdrawal for construction

The overall coordination of the project will be provided by ARIS which will oversee all resettlement planning and coordinate all issues relating to the compensation. ARIS will collaborate closely with the local self-government bodies: aiyl okmotu and
<table>
<thead>
<tr>
<th>Human communities</th>
<th>Suspension of utility services</th>
<th>Timely notification of communities about planned cutoffs; rapid restoration of utility services</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Equal participation and representation of women throughout the project implementation</td>
<td>No less than 30% of meeting/hearing participants will be women. Under the project, it will be suggested to communities that village water committees should be established, with no less than 30% of women included as committee members.</td>
<td>Local government bodies, ARIS</td>
</tr>
<tr>
<td>Poverty</td>
<td>A subsidy strategy will be developed under the project to connect low-income households to water systems. This strategy will be introduced under each subproject.</td>
<td></td>
<td>Ayil Okmotu (AO), Municipal enterprise on water supply/ CDWUU under ARIs support</td>
</tr>
<tr>
<td>Potential social resistance to tariff increase</td>
<td>Social mobilization, awareness raising (welfare activities, community consultations, development and implementation of outreach campaigns). Tariffs will be developed with due regard to the views of communities gathered during public consultations.</td>
<td></td>
<td>Ayil Okmotu (AO), Municipal enterprise on water supply/ CDWUU under ARIs support</td>
</tr>
<tr>
<td>Limited capacities of local authorities</td>
<td>The project allows for a range of capacity building activities and technical assistance to local authorities.</td>
<td></td>
<td>ARIS (under Component 3)</td>
</tr>
</tbody>
</table>

raion state administration bodies.

ARIS is responsible for preparation of RAP.

The Ministry of Finances will pay compensation for land and assets of PAPs as stipulated in the RAP.
<table>
<thead>
<tr>
<th>Actual delay in implementation</th>
<th>Delays in the implementation of construction work can cause some discontent. In such cases, explanatory work will be conducted with local communities.</th>
<th>Ayil Okmotu (AO) Contractor ARIS</th>
<th>ARIS</th>
</tr>
</thead>
</table>

Sourcing of labor and implications of any potential labor influx will be closely monitored by the safeguards consultant and ARIS. Civil works contractors will be advised to recruit necessary labor, where feasible, locally. Labor recruited from outside the community where civil works will be done will abide by a ‘code of conduct’.

### Operation period

| Proper Operations                                                                 | Ensure use of environmentally acceptable fuels  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure of the system, breakdown of equipment.</td>
<td>Regular technical maintenance (The defects liability period is 12 months).</td>
</tr>
<tr>
<td>Increasing the discharge of untreated household sewage waters</td>
<td>Ensure all attests and certificates have been acquired in particular for fire protection and monitoring of emissions/concentrations in air</td>
</tr>
<tr>
<td></td>
<td>Ensure proper, efficient use of water resource, and avoid water losses, leakages and abusive consumptions – install, operate and periodically verify the water meters for each water user.</td>
</tr>
</tbody>
</table>

**Treatment of waste waters**

Construction of small sanitary facilities in households will be subsidized under Component 2; technical specifications for several options of toilets have been developed.

It is planned to construct internal and external sanitary facilities at social objects (schools and kindergartens) under Component 2.

Conducting trainings on public awareness about the necessity of using the local treatment facilities is expected.

<table>
<thead>
<tr>
<th>Operator of CDWUU, Local authorities (reprepresentative of AO)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
## 5 MONITORING PLAN

### Environmental Monitoring Plan

<table>
<thead>
<tr>
<th>What parameter is subject to monitoring?</th>
<th>Where will monitoring of parameter be carried out?</th>
<th>How will monitoring of parameter be carried out/type of monitoring equipment</th>
<th>When will monitoring of parameter be carried out/frequency</th>
<th>Monitoring cost&lt;sup&gt;10&lt;/sup&gt;</th>
<th>Institutional responsibility for monitoring</th>
<th>Date of commencement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise from vehicles and equipment</td>
<td>At the construction and disposal site</td>
<td>Portable noise meters</td>
<td>Continuous</td>
<td>Criteria / specifications to be incorporated into bidding and contract documents. It is not considered as a separate cost items)</td>
<td>1. Inspection of construction sites is carried out by ARIS to ensure compliance with ESMP. 2. State inspectors of Architecture and construction supervision department (ACSD) will supervise fulfillment of design solutions in construction and installation works or reconstruction of facilities, quality of construction materials, structures, and participate in commissioning of completed construction facilities. 3. State ACSD carrying out state environmental supervision have a right to supervise in established procedure on presentation of official identification papers in compliance with environmental provisions, normative quality, environmental protection activities in project implementation. NGO, local authorities (AO, CDWUU), CDWUU operator</td>
<td>After taking over of site possession by contractor.</td>
</tr>
<tr>
<td>Soil and water pollution</td>
<td>At construction site</td>
<td>Visual</td>
<td>Continuous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air (dust generation)</td>
<td>At and near the construction site</td>
<td>Portable measuring devises</td>
<td>Weekly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport (parking in designated areas, car washing)</td>
<td>At and near the construction site</td>
<td>Visual</td>
<td>Continuous</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>10</sup> Activities requiring financial expenses are to be included in BoQ.
<table>
<thead>
<tr>
<th>Construction waste (waste storage and disposal)</th>
<th>At construction site</th>
<th>In accordance with the plan and observation</th>
<th>In accordance with the plan but at least weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decommissioning of construction site</td>
<td>At construction site</td>
<td>Visual</td>
<td>In accordance with the plan</td>
</tr>
<tr>
<td>Safety of workers</td>
<td>At construction site</td>
<td>Visual</td>
<td>Continuous</td>
</tr>
<tr>
<td>ARIS will carry out monitoring using the checklist &quot;Construction Sites Monitoring Checklist &quot; (Annex 1 to ESMP).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 COLLECTION, STORAGE, TRANSPORTATION AND DISPOSAL OF ASBESTOS-CONTAINING WASTES.

Removal of materials that contain asbestos will be carried out in line with the local legislation, including construction standards, work safety issues, air borne emissions of hazardous pollutants and disposal of waste and hazardous waste (in the event that there is no local legislation, the Directive 2003/18/EC of the European Parliament will be used, that amends and supplements Directive of the Council 83/477/EEC on worker protection from workplace asbestos exposure risks: threshold values of airborne dust particles is 0.1 fiber/cm³; also use the Good Practice Note: Asbestos: Health Issues at Workplace and Community; World Bank). Asbestos materials shall be subject to immediate final disposal/burial under special conditions.

According to Order #885 of the Government of the Kyrgyz Republic On Hazardous Waste Management in the Kyrgyz Republic of December 28, 2015, asbestos-containing wastes should be disposed as follows.

The hazardous waste management process (waste lifecycle) consists of the following phases: generation, accumulation (collection, temporary storage, stockpiling), transportation, neutralization, recycling, reuse of recycled products, and disposal.

When asbestos is present at a project site, it should be clearly labeled as a hazardous material. Asbestos-containing materials should not be subject to cutting or breaking as this will result in dust generation. In reconstruction, all workers should avoid crushing/damaging asbestos-containing waste, stockpile such waste at designated locations within the construction site and dispose of it properly afterwards to a special location or landfill.

When asbestos-containing waste is subject to temporary on-site storage, they should be properly contained in leak-tight containers and labeled appropriately as a hazardous material. Safety precautions should be taken to prevent any unauthorized removal of such waste from the site.

Collection and temporary storage of waste

Asbestos waste generation should be minimized by using efficient technologies.

All asbestos-containing materials should be handled and disposed by qualified and experienced personnel only. The personnel should wear appropriate protective equipment (safety masks, gloves and overalls).

The amount of waste stored at the designated site must not be greater than permitted by the standards.

Industrial waste collection sites and access ways must not be blocked up.

When handling asbestos waste, the workers should necessarily wear special protective clothing, gloves and respirators. Prior to removing (if required) asbestos from the site, it should be treated with a wetting agent to minimize asbestos dust emission. Removed asbestos should never be reused.

Keeping foreign items, individual or working clothes, or personal protection equipment, or having meals at waste collection sites is not allowed.

During handling operations, workers must comply with applicable handling requirements and general safety rules. All operations should be carried out mechanically, using labor-saving lifting and transport equipment.

Hazardous wastes should be transported to the landfills by properly equipped vehicles, either own or of a specialized third party carrier. The transport vehicles should be constructed and used in a manner that prevents potential incidents, losses and environmental pollution both on the way to the landfill and when transferring waste from one vehicle to another. All activities that involve loading, transportation and unloading of waste at main and auxiliary sites should be mechanized and use leak-tight equipment. Opening hazardous waste containers during transportation is prohibited.

Solid and dusty wastes should be transported in special containers or containers fitted with gripping devices for unloading by truck cranes. Transporting unpacked asbestos in open trucks or on flat wagons is not allowed.

Using hooks and other sharp tools in handling operations is not allowed.
No one except the driver and staff members authorized to escort the waste off site is allowed to be in vehicles transporting hazardous waste. The drivers of vehicles that will transport asbestos waste must be trained in safe transport requirements.

All operations in connection with loading, transport, unloading and disposal of waste must be mechanized. The waste must be transported in a way to prevent transportation losses and environmental impacts.

**Disposal of asbestos waste**

Asbestos waste must be disposed to landfills for municipal solid waste or unrecycled industrial solid waste.

7 **SUPERVISION AND REPORTING**

Field technical supervision engineer must be at the site at all times. In addition, safeguard specialist or infrastructure engineer of ARIS visits construction sites at least once a month in order to supervise fulfillment of ESMP during subproject implementation. More visits may be required if any issues are identified. If there are topical environmental issues, ARIS should continue its supervision during facility operation.

After site monitoring visit report of safeguard specialist should be submitted by coordinator of project. In the event of non-compliance with environmental protection measures, a statement specifying the remedial period for contractor should be drawn up. When conducting social and environmental monitoring special attention will be paid to the accidents. In case of identifying any accident it will be included into the report and classified as SEVERE, SERIOUS, and INDICATIVE with description of type and reason of the accident.

«Environmental protection» section will be included in regular Progress Reports prepared by field technical supervision engineer and delivered to ARIS. The section should contain compressed information and briefly describe monitoring activities as well as any arising issues and the ways to address them.

The final responsibility for the implementation of the ESMP remains with the Project Implementation Unit (ARIS), as per the World Bank environmental safeguards, the bidding and contractual documentation will allow for the responsibility of implementing specific mitigation measures to be transferred to the contractor from the PIU.

8 **PUBLIC CONSULTATIONS**