

Environmental Due Diligence Report

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Georgia: Climate Smart Irrigation Sector Development Program

Kvemo Samgori Left Main Canal Irrigation Scheme - Areas 5 and 6

Prepared by the Ministry of Environmental Protection and Agriculture, Government of Georgia for the Asian Development Bank.

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ABBREVIATIONS

ADB	–	Asian Development Bank
APA	–	Agency of Protected Areas
ACM		Asbestos-containing material
CEMP	–	Contractor Environmental Management Plan
CSISDP	–	Climate Smart Irrigation Sector Development Program
CAP	–	Corrective Action Plan
EA	–	Executing Agency
EAC	–	Environmental Assessment Code
EDDR	–	Environmental Due Diligence Report
EDDIR	–	Environmental Due Diligence Inception Report
EARF	–	Environmental Assessment and Review Framework
EHS	–	Environmental, Health and Safety Guidelines
EIA	–	Environmental Impact Assessment
EIP	–	Environmental Impact Permit
EMP	–	Environmental Management Plan
EMR	–	Environmental Monitoring Report
GA	–	Georgian Amelioration
IA	–	Implementing Agency
IBAT	–	Integrated Biodiversity Assessment Tool
IEE	–	Initial Environmental Examination
IUCN	–	International Union for the Conservation of Nature
LARP	–	Land Acquisition and Resettlement Plan
MEPA	–	Ministry of Environmental Protection and Agriculture
MoF	–	Ministry of Finance
NRM	–	Natural Resources Management
NEA	–	National Environmental Agency
O&M	–	Operation and maintenance
OPs	–	Operational Priorities
PIC	–	Project Implementation Consultants
RCP	–	Representative Concentration Pathways
RLG	–	Red List of Georgia (Aligned with IUCN Criteria)
SDG	–	Sustainable Development Goals

LIST OF CONTENTS

EXECUTIVE SUMMARY	I-7
I. INTRODUCTION AND METHODOLOGY.....	I-9
A. General overview	I-9
B. Methodology	I-10
1. Methodology for Completed Activities and Consultations	I-10
2. Methodology for Forthcoming Field Studies and Investigations	I-11
C. Interface between Environmental and Social Due Diligence (EDDR-SDDR Coordination)	I-12
II. DESCRIPTION OF PROJECT AND IMPLEMENTED ACTIVITIES.....	II-14
A. Kvemo Samgori Left Main Canal Irrigation Scheme	II-14
B. Project Packages	II-14
C. Areas 5 and 6	II-16
D. Description of rehabilitation works carried out by GA	II-17
1. Camp(s)	II-19
2. Building materials manufacturing facilities	II-20
3. Landfills	II-21
4. Temporary storage areas	II-21
5. GA New Service Center Building	II-22
6. Layout of main and temporary infrastructure as of April 2026	II-23
III. LEGAL AND INSTITUTIONAL FRAMEWORK	III-25
A. National Legislation	III-25
B. ADB Safeguard Policy Statement (2009) and Due Diligence Requirements	III-28
C. Comparison of Georgian Legislation and ADB Requirements	III-29
IV. BASELINE ENVIRONMENTAL CONDITIONS.....	IV-30
A. Justification for Baseline Data Transferability and Scope of Assessment	IV-30
B. Physical Setting, Climate, and Topography	IV-31
C. Land Use and Socio-Economic Conditions	IV-32
D. Water Resources	IV-33
E. Ambient Air Quality, Noise, and Vibration	IV-34
F. Biological Environment and Protected Areas	IV-35
1. Flora and Habitats	IV-35
2. Fauna	IV-36
3. Protected Areas and Key Biodiversity Areas (KBAs)	IV-38
G. Cultural Resources	IV-40
H. Summary of Baseline Conditions	IV-41
V. FINDINGS, GAP ANALYSIS AND ASSOCIATED RISKS	V-42
A. Review of Environmental Documentation and Regulatory Compliance	V-42
1. National Regulatory Context - Status of Permits, Licenses and Agreements	V-42
2. ADB Safeguard Requirements and Procedural Gaps	V-45
B. Waste Management and Hazardous Materials	V-47
1. Audit Findings and Current Status	V-47
a) Mixed waste near the new GA Service Center area	V-47
b) Mixed waste at the construction camp	V-48

c)	Concrete waste at various old and ongoing construction sites	V-49
d)	Asbestos-Containing Materials (ACM) waste	V-50
e)	Other types of hazardous waste	V-52
f)	Summary table of waste identified during the audit	V-52
2.	Future Impacts and Mitigation	V-53
C.	Biodiversity and Protected Areas	V-54
1.	Audit Findings and Current Status	V-54
2.	Future Impacts and Mitigation	V-55
D.	Natural Disaster and Geodynamic Processes	V-55
1.	Audit Findings and Current Status	V-55
2.	Future Risks and Mitigation	V-56
E.	Soil, Water, and Air Quality	V-56
1.	Audit Findings and Current Status	V-56
2.	Anticipated Future Impacts and Mitigation	V-58
3.	Environmental Baseline and Diagnostic Sampling Plan	V-58
a)	Justification and Methodological Adjustments	V-58
b)	Planned Field Investigation and Sampling Matrix	V-59
c)	Future Demobilization and CAP Requirements	V-59
F.	Disturbance or damage of cultural sites, Chance finds	V-60
1.	Audit Findings and Current Status	V-60
2.	Future Management and Chance Find Protocol	V-60
G.	Visual-Landscape Impacts	V-60
1.	Audit Findings and Current Status	V-60
2.	Future Impacts and Mitigation Measures	V-61
H.	Occupational and Community Health and Safety	V-61
1.	Audit Findings and Current Status	V-61
2.	Future Risks and Mitigation Measures	V-63
I.	Traffic	V-63
1.	Audit Findings and Current Status	V-63
2.	Future Risks and Mitigation	V-64
J.	Social Aspects and Grievance Redress Mechanism	V-64
1.	Audit Findings and Current Status (Implemented Works)	V-64
2.	EDDR–SDDR Interface and Boundary Items	V-64
3.	Future Social Impacts	V-65
K.	Operational Impacts	V-65
L.	Cumulative Impacts	V-66
M.	Transboundary impacts	V-67
1.	Audit Scope and the Iori-Mingechauri Pathway	V-67
2.	Audit Findings and Risk Assessment	V-67
3.	Verification through Diagnostic Sampling	V-67
4.	Notification Status	V-67
5.	Conclusion	V-68
N.	GAP Analysis Summary	V-69
VI.	CORRECTIVE ACTION PLAN (CAP)	VI-73
VII.	FUTURE WORK PLAN AND TIMELINE	VII-76

VIII.	CONCLUSIONS AND RECOMENDATIONS	VIII-77
IX.	Annexes	IX-78
	Annex 1. A comprehensive environmental questionnaire for GA	IX-78
	Annex 2. Official Correspondence and Institutional Communications	IX-81
	Annex 3. Preliminary meeting with GA (February 2026)	IX-97
	Annex 4. Key questions asked to the Korughi Nature Reserve Administration	IX-98
	Annex 5. Preliminary meeting with Korughi Nature Reserve Administration (March 2026) .	IX-99
	Annex 6. Photo Documentation of Community Meeting process (April 2026).....	IX-100
	Annex 7. List of Meeting Participants and Signatures (April 2026)	IX-101
	Annex 8. Areas 5 and 6 site visit in 10 December 2025	IX-103
	Annex 9. Areas 5 and 6 site visit in 24 April 2026	IX-105
	Annex 10. Meeting Minutes Template for future meetings	IX-108
	Annex 11. Photos of the Area 5 and 6 before and after rehabilitation	IX-109
	Annex 12. Biodiversity Mitigation Measures and Compliance Protocol.....	IX-110
	Annex 13. Asbestos Management Plan (Handling Protocol)	IX-112
	Annex 14. Chance Find Protocol.....	IX-120

LIST OF TABLES

Table 1. Main Features of Left Main Canal at Offtakes	II-14
Table 2. Comparative Baseline Parameters and Transferability Conclusion.....	IV-30
Table 3. Summary table of waste identified during the audit	V-52
Table 4. EDDR Environmental Sampling and Instrumental Monitoring Plan.....	V-59
Table 5. GAP Analysis Summary	V-69
Table 6. Corrective Action Plan (CAP)	VI-73
Table 7. Future work plan and timeline	VII-76

LIST OF FIGURES

Figure 1. Overview of Irrigation Areas	II-15
Figure 2. General plan of Area 5.....	II-16
Figure 3. General plan of Area 6.....	II-17
Figure 4. Spatial distribution of rehabilitation works. Pink: Completed areas; Blue/Grey: Untouched 8-9 km segment of Area 6; Green: Korughi Managed Reserve (Source: GA KMZ data, May 20, 2026)	II-18
Figure 5. View of the Camp area used during rehabilitation (December, 2025).....	II-20
Figure 6. View of the Camp area used during rehabilitation (April, 2026).....	II-20
Figure 7. Temporary storage area for dismantled concrete structures during rehabilitation (December, 2025).....	II-22
Figure 8. Temporary storage area for dismantled concrete structures during rehabilitation (April, 2026).....	II-22
Figure 9. GA New Service Center Building (April, 2026)	II-23
Figure 10. Location of the old camp, concrete slabs storage area and new service center building	II-24
Figure 11. Typical grazing activities near the southern peripheries of the project area.....	IV-32
Figure 12. Unauthorized artificial trench dug by locals, causing damage to the degraded G-42 canal and the adjacent local unpaved road (April, 2026)	IV-33
Figure 13. Preliminary ambient noise screening conducted near the regional service center (April 24, 2026).....	IV-34
Figure 14. Typical highly modified agricultural habitats (vineyards and arable lands) and low-value secondary vegetation dominating the project corridor.....	IV-36

Figure 15. The boundary of the Korughi Managed Reserve interfacing with the untouched, un-rehabilitated segment of the G-42 canal, confirming the absence of construction impacts (April 24, 2026).....	IV-39
Figure 16. Waste in the new GA Service Center area.....	V-48
Figure 17. Various types of waste in the area of the camp, April 2026	V-49
Figure 18. Concrete waste in various areas.....	V-50
Figure 19. ACM waste in the project area, April 2026	V-52
Figure 20. camp site, where various materials are stored without removing the topsoil	V-57
Figure 21. Planting and landscaping works at the new GA building	V-61
Figure 22. Work process and PPE usage practices	V-62

EXECUTIVE SUMMARY

Introduction and Project Status:

- i. This Environmental Due Diligence Report (EDDR) has been prepared for Areas 5 and 6 of the Kvemo Samgori Left Main Canal irrigation scheme under the Climate Smart Irrigation Sector Development Program (CSISDP). At the time of this assessment, rehabilitation works in Area 5 are fully completed, while approximately 9 km of Area 6 has been rehabilitated, leaving 8 km in its original state. Currently, all physical works are suspended, and no contractor is mobilized on-site.
- ii. The primary objective of this report is to identify past non-compliance issues and establish a roadmap for bringing the project into full alignment with international environmental and social standards.

Key Findings and GAP Analysis:

- iii. The audit indicates that while the project was compliant with Georgian national legislation during its initial phase (being exempt from mandatory EIA), several significant procedural and physical gaps exist regarding ADB Safeguard Policy Statement (SPS 2009) requirements:
 - Documentation: No site-specific IEE or EMP was prepared for Areas 5 and 6. The project initially relied on general national regulations, which lack the site-specific mitigation measures and monitoring frameworks required by ADB.
 - Waste Management: Significant concerns were identified regarding the legacy of ACM and unmanaged hazardous waste (oil residues) at the abandoned construction camp. No formal agreements for hazardous waste disposal have been verified.
 - Biodiversity and Protected Areas: The environmental assessment has been expanded to address the Iori, Korughi, and Mariamjvari Managed Reserves. To resolve the critical habitat and trigger species assessment, a site-specific IBAT Proximity Report (5 km buffer) is being generated for the G-41 and G-42 alignments. This report will provide the species and KBA hits required to formally populate the biodiversity baseline. Furthermore, to resolve documented inconsistencies regarding reserve boundaries, an official overlay analysis is being conducted using GIS shapefiles provided by the Agency of Protected Areas (APA) against the as-built G-42 alignment. This will be supplemented by a formal, protocol-referenced written confirmation from the reserve administration. All findings will be documented in the Final EDDR.
 - Occupational and Community Health and Safety (H&S): The former construction camp remains unfenced and lacks safety signage, posing risks to local farmers and livestock. Findings indicate a lack of dedicated H&S personnel and formal HS management plans during the construction phase. The geological conditions are confirmed to be stable; however, physical hazards from open excavations and scattered debris remain the primary safety concern. This issue will be further verified during subsequent field visits.
 - Social and Grievance Redress: No formal Grievance Redress Mechanism (GRM) or documented public consultations aligned with ADB standards were established.
- iv. A Corrective Action Plan (CAP) has been developed to address identified risks. This plan is detailed in this EDDR, providing a clear roadmap for either the safe conservation of existing sites or the continuation of rehabilitation works in compliance with international standards..
- v. Notwithstanding the identified Gaps, the current environmental situation is not considered critical; there are no high-level immediate threats to the surrounding environmental

receptors or protected areas, and all identified issues are manageable through the proposed Corrective Action Plan (CAP).

Future Work Plan and Data Verification:

- vi. It is important to note that this report is based on reconnaissance, including the field surveys and stakeholder consultations conducted in December 2025 and April 2026. The identified gaps represent an initial assessment and are subject to verification through subsequent field investigations and stakeholder engagement. To ensure full compliance with ADB safeguard requirements, a structured verification and gap-closure process will be implemented.
- vii. A comprehensive Future Work Plan has been developed, including the following actions:
 - Detailed archival review of Georgian Amelioration (GA) records to verify the existence of environmental, health and safety (EHS) documentation, including internal H&S protocols and waste management agreements.
 - Site-specific environmental and safety audits to quantify the volume and characteristics of legacy waste, including asbestos-containing materials (ACM), and to assess current site conditions.
 - Formal boundary overlay analysis using official APA shapefiles for all three relevant reserves (Iori, Korughi, Mariamjvari).
 - Completion of IBAT Proximity Reporting to address critical habitat triggers.
 - Structured stakeholder consultations and interviews including local farmers and residents, to assess historical and ongoing impacts and to verify the effectiveness of existing grievance mechanisms (if any exist?). Consultation records and a summary of stakeholder feedback will be systematically documented and reflected in the Final EDDR.
 - Continued coordination with the Korughi Managed Reserve administration to ensure that project activities comply with protected area requirements and biodiversity considerations.

An indicative timeline for the forthcoming activities is provided in Section VII of this report, including key tasks planned for June-July 2026.

Conclusions and Recommendations

- viii. The audit concludes that, notwithstanding the identified gaps, the current environmental situation is not considered critical; there are no high-level immediate threats to the surrounding environmental receptors or protected areas. All identified issues are manageable through the proposed Corrective Action Plan (CAP).
- ix. The primary recommendations include the immediate fencing and signage of the abandoned construction camp, the formalization of the GRM, and the development of a site-specific SEMP before any rehabilitation works resume on the remaining 8-9 km of Area 6. This report serves as a foundational document, and all findings will be further refined and verified prior to the commencement of civil works.

I. INTRODUCTION AND METHODOLOGY

A. General overview

1. Environmental Due Diligence Report (EDDR) has been prepared for the Climate Smart Irrigation Sector Development Program Project (Project Number: 54014-001). The report focuses on rehabilitation works carried out by GA on Areas 5 and 6 (Distributaries G41 and G42) of the Kvemo Samgori Left Main Canal Irrigation Scheme.
2. Climate Smart Irrigation Sector Development Program (CSISDP) Project aims to contribute towards economic growth and food security. The project will support the Government of Georgia through the Ministry of Environmental Protection and Agriculture (MEPA) and Georgian Amelioration (GA) to implement policy, legal, institutional and management reforms in agriculture, in particular irrigation, and modernize selected irrigation schemes through priority repairs to irrigation networks and the introduction of innovative on-farm irrigation and agricultural production technologies.
3. MEPA is the executing agency and implementing agency for the investment component. Project implementation is led by the existing MEPA project implementation unit (PIU).
4. This project is in the ADB's Country Operations Business Plan for Georgia, 2021-2023. It is in line with ADB's Country Partnership Strategy 2024-2028 for Georgia, which will support sovereign and private sector investments, policy reforms, capacity building, and knowledge to help Georgia develop into a green and inclusive regional gateway. In accordance with the strategy, ADB will help develop market-oriented agricultural systems in line with advanced international standards.
5. Georgian Amelioration (GA), which is the asset owner of the Kvemo Samgori Left Main Canal Irrigation Scheme, conducted rehabilitation works on Areas 5 and 6 under the CSISDP without informing or coordinating with ADB. Therefore, the main objective of this report is to clarify the scope of works completed and is required to assess the environmental compliance status of implemented activities against ADB SPS (2009) and national regulations at Areas 5 and 6 and identify any legacy of environmental issues may affect ongoing implementation or future project activities at above mentioned areas and their associated facilities, if any.
6. Furthermore, the scope of this environmental audit explicitly encompasses the assessment of potential transboundary environmental effects. Given that the Kvemo Samgori Irrigation areas drains into the Iori River system, which subsequently flows into the Mingechauri Reservoir in Azerbaijan, any construction-phase impacts (such as sedimentation and hydrocarbon risks from the construction camp) and operational-phase return flows from the G-41 and G-42 distributaries are evaluated to ensure compliance with ADB SPS (2009) Safeguard Requirement 1 (SR1) and Paragraph 39 of the project's Environmental Assessment and Review Framework (EARF).
7. Specific objectives of this report are:
 - i. Assess compliance of implemented works at Areas 5 and 6 and existing facilities, if any, with national environmental legislation as applicable at the time of implementation (noting that Georgian Environmental Assessment Code was amended in June 2025) and ADB's SPS (2009) including specifically Para 70 (environmental audit of existing facilities) and SR1 Para 11 (audit requirements);
 - ii. Identify existing and/or legacy environmental issues, potential risks and impacts and environmental liabilities at Areas 5 and 6, including but not limited to: asbestos-containing material (ACM) disposal from old canal sections, construction waste disposal compliance, impacts on nearby Iori and Korughi Protected Areas, water resource impacts on downstream users, physical cultural resource issues, and any unresolved grievances from the implementation period;
 - iii. Evaluate the effectiveness of past environmental management practices;

- iv. Propose corrective and mitigation measures, and develop a Corrective Action Plan (CAP) to ensure full compliance during project implementation, including monitoring of CAP.
 - v. Identify future activities (field surveys, stakeholder meetings, etc.) required for the preparation of the final EDDR, and develop an appropriate plan-schedule.
 - vi. Assess the transboundary dimension of the Iori River–Mingechauri Reservoir pathway, and confirm whether the 2024–2026 rehabilitation works triggered any formal bilateral notification requirements under customary international water law or existing Georgia–Azerbaijan bilateral arrangements.
8. This EDDR incorporates factual field findings and photographic documentation captured during a joint site inspection conducted on April 24, 2026, by the environmental specialist and GA representatives. It also reflects the baseline status of official regulatory and stakeholder communications initiated by the PIU - including official inquiries sent to the Agency of Protected Areas (APA), GA, and the construction contractor. While preliminary responses and ongoing steps are outlined herein, all finalized institutional feedback and complete letter responses have been fully integrated into this Final EDDR. .

B. Methodology

9. The environmental due diligence process for Areas 5 and 6 follows a phased approach, as defined in the ToR, specifically including the following stages:
- i. **Inception Report preparation** - Work plan, methodology, and initial findings from document review
 - ii. **Draft/Interim EDDR (Current Stage)** - Draft Environmental Due Diligence Report including findings and draft CAP.
 - iii. **Final EDDR**, incorporating comments from ADB and the Executing Agency
10. The environmental due diligence process is a retrospective analysis of completed work with a proactive assessment of ongoing and future activities. In line with ADB Safeguard Policy Statement (2009), Safeguard Requirement 1 (Environment) – Environmental Audit of Existing Facilities, the environmental due diligence process adopts a compliance-based audit approach. This includes a systematic review of past and existing activities against applicable national legislation, ADB safeguard requirements, and relevant international good practice, including the IFC EHS Guidelines. The methodology also aims to identify legacy issues, environmental liabilities, and associated risks arising from previously implemented works, and to define prioritised corrective actions through the Corrective Action Plan (CAP).

1. Methodology for Completed Activities and Consultations

11. To date, the environmental audit required for the preparation of the EDDR has relied on a review of existing materials, institutional and community meetings, and field visits to Areas 5 and 6. The following methodological tools were used to determine the baseline and existing gaps:
12. **Desk Review and Formal Inquiries:**
- A comprehensive environmental questionnaire was developed and submitted to GA. The purpose was to identify the scope of work performed, technical documentation available, the presence (or absence) of site-specific Environmental Management Plans (EMPs), waste disposal permits, monitoring reports, etc. (Annex 1).

- Previous studies, literature, reference materials, and the design documentation for Areas 5 and 6 provided by GA were also reviewed.
- To address documentation gaps regarding the construction phase, formal written requests were issued to GA, the Agency of Protected Areas (APA), and the construction contractor (LLC Smart Solution) requesting specific site records and compliance evidence. To date, a response has been received from GA; the response from APA is pending, and no response has been received from the construction contractor (copies of the dispatched letters are provided in Annex 2).
- Furthermore, the desk review examined compliance with national environmental legislation and ADB Safeguard Policy Statement (2009) requirements to identify gaps, non-compliances, and missing documentation.

13. Stakeholder Consultations (Institutional and Community Level):

- **Georgian Amelioration (GA):** A meeting was held to clarify the technical scope of works in Areas 5 and 6 and to retrieve data regarding previous environmental performance. Technical project documentation for Areas 5 and 6 was requested (Annex 3).
- **Korughi Reserve Administration:** The consultation focused on identifying potential environmental legacy issues. Key inquiry areas included: (i) verification of project boundaries to ensure no encroachment on protected land; (ii) assessment of impacts on local biodiversity and migratory paths; and (iii) review of any formal environmental non-compliances recorded by the reserve rangers during the construction phase (Annexes 4 and 5).
- **Community Consultations:** A joint environmental and social community meeting was conducted on 24 April 2026 in Gurjaani Municipality. The meeting was attended by local residents, farmers, two women, and two elderly persons. This meeting facilitated the integrated discussion and screening of both environmental and social issues related to the project works. photographic evidence, meeting documentation, and the structured questionnaire used during this consultation are provided in Annexes 6 and 7.
- **Review of Consultation and GRM Practices:** Consultations were used to assess past engagement practices and evaluate the presence of functional grievance redress mechanisms (GRM). Based on the available information and community feedback, no formal consultation records, prior information disclosure, or GRM aligned with ADB requirements were identified for the implemented works.

14. Site Reconnaissance and Field Verification:

- Important baseline information was obtained during an initial site visit conducted on 10 December 2025, attended by Dolsar engineering specialists and representatives of ADB and GA (Annex 8).
 - Subsequent field verification was conducted simultaneously with the community meeting on 24 April 2026. These visits were utilized to map major infrastructure components, assess the central construction camp, identify dismantled material storage sites, and map waste disposal areas to evaluate legacy and residual risks. General date- and coordinate-stamped photos illustrating this visit, which have not been utilized in the main sections of this report, are provided in Annex 9.
15. The key findings derived from these comprehensive desk reviews, field investigations, and various stakeholder communications are discussed in detail in the corresponding sections of this report.

2. Methodology for Forthcoming Field Studies and Investigations

16. The next phase of the due diligence will involve detailed field investigations and targeted technical assessments prior to the commencement of civil works.

17. The field investigations will be conducted in line with a compliance-based and risk-informed audit approach, ensuring that all findings are systematically assessed against ADB Safeguard Policy Statement (2009), applicable national legislation, and relevant international good practice, including the IFC EHS Guidelines.
18. This will include:
 - **Follow up Site Inspections and Physical Audit:** Camp Sites, Storage Yards, and Spoil Disposal Sites: Building upon the baseline conditions already observed and documented during the April 24, 2026 site visit, follow-up inspections of the construction camps, warehouses, and spoil disposal areas will be conducted. The primary objective of these subsequent visits is to re-verify the physical conditions on the ground, monitor any changes or developments that may have occurred over time regarding potential soil contamination, hazardous waste management, site stability, and overall environmental compliance.
 - **Biodiversity and Protected Area Verification:** A specialized field assessment will be conducted at the intersection points of the project area and the Korughi Reserve to ensure no direct or indirect impact has occurred during the construction phase. To thoroughly support this verification, an IBAT (Integrated Biodiversity Assessment Tool) proximity screening report will be prepared. Based on the findings of this report, a qualified biodiversity expert will evaluate the identified sensitive areas and potential ecological receptors.
 - **Instrumental Measurements and Laboratory Testing:** Subject to ADB's feedback and requirements regarding this EDDR, mandatory laboratory testing (e.g., soil and water quality sampling at the camp site) and instrumental measurements (e.g., baseline noise and air quality) will be conducted at specifically identified locations.
 - **Social Consultations and Farmer Interviews:** Direct interviews and public consultations will be held with local residents and farmers in Areas 5 and 6. Future meetings will mainly consist of meetings with the residents of the nearby villages - Kachreti and Kazlari. Topics of the meeting will include the effectiveness of the Grievance Redress Mechanism (GRM), impacts on irrigation water supply during works, dust/noise disturbances, and any unresolved environmental and social liabilities. Following these public consultations, formal meeting minutes will be prepared to officially document stakeholder feedback (an example of the meeting minutes template to be used is provided in the Annex 10).
 - **Gap Verification:** All findings from the physical audit will be cross-referenced with ADB Safeguard Policy Statement (2009) requirements and national legislation requirements to define necessary corrective measures. In addition, identified gaps will be assessed in terms of their environmental significance and associated risks, taking into account both the likelihood and potential severity of impacts.
19. The forthcoming methodologies outlined above are presented here in a generalized context. A much more detailed and comprehensive breakdown of these specific tasks, including the exact procedures and indicative timeline, is elaborated upon in Section VII (Future Work Plan and Timeline) of this report.
20. The methodology includes a disclosure plan, ensuring that the Final EDDR and CAP are posted on the ADB website and locally accessible in Georgian

C. Interface between Environmental and Social Due Diligence (EDDR-SDDR Coordination)

21. To ensure a holistic assessment, maximize efficiency, and avoid duplication of effort, the Environmental Due Diligence Report (EDDR) and the Social Due Diligence Report (SDDR) for Areas 5 and 6 have been prepared in close coordination.

22. Whenever feasible, field investigations and institutional consultations were conducted simultaneously by both the environmental and social safeguard experts. Specifically, both experts jointly participated in:
- i. Institutional meetings with Georgian Amelioration (GA) representatives to retrieve project data and clarify implementation details.
 - ii. A coordination meeting with the Korughi Managed Reserve Administration (March 2026) to assess any potential boundary or access-related issues.
 - iii. The comprehensive community meeting held with local residents, farmers, and vulnerable groups in Gurjaani Municipality on April 24, 2026.
 - iv. The physical site inspection of the construction areas, former camps, and infrastructure alignments on April 24, 2026, which was conducted jointly alongside a designated representative from GA.
23. While the assessment processes were highly integrated in the field, the reporting boundaries and specific responsibilities are clearly delineated in accordance with the SDDR's Executive Summary:
- **Construction Camp, Ancillary Facilities, and Waste:** The SDDR assesses the legal status of the land, temporary use agreements, and potential impacts on private or municipal landowners. The EDDR strictly focuses on physical environmental impacts, such as topsoil management, soil and water contamination (e.g., oil residues), and the contractor's compliance with national waste disposal regulations (e.g., managing asbestos-containing materials).
 - **Grievance Redress Mechanism (GRM):** A unified, project-level GRM is recommended for Areas 5 and 6. The SDDR team leads the formalization, disclosure, and tracking of this mechanism for social issues (e.g., crop damage, irrigation disruption), while the environmental specialists will utilize the same log to address any environment-related complaints (e.g., noise, dust, illegal dumping).
 - **Community Health and Safety:** The EDDR outlines the physical remediation of site hazards (e.g., fencing the camp, installing warning signs, safe removal of debris). The SDDR addresses community notification, awareness, and ensuring that specific vulnerable groups are protected from these residual risks.
24. Ultimately, this clear division of roles ensures that both environmental and social issues are effectively managed without duplicating efforts.

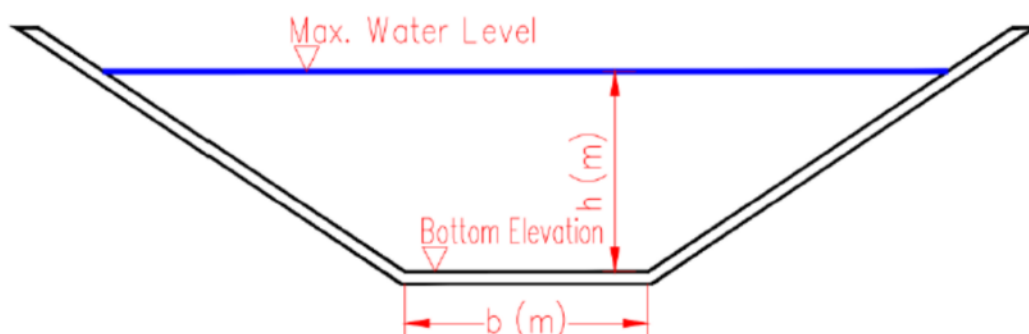
II. DESCRIPTION OF PROJECT AND IMPLEMENTED ACTIVITIES

A. Kvemo Samgori Left Main Canal Irrigation Scheme

25. Kvemo Samgori Left Bank Main Canal was built in 1960s. Headworks and diversion weir divert water into left main canal. Main canal length is 48.9 km and canal's discharge decrease from 21.7 m³/s to 3.0 m³/s.
26. The section of the main canal up to kilometer 313+42 has been rehabilitated as part of previous
27. projects. The following sections will be rehabilitated as part of this project.
28. Some information regarding the main canal at the secondary canal branching points is given in the table below.

Table 1. Main Features of Left Main Canal at Offtakes

Secondary Canal ID	Main Canal Km	Bottom Width b (m)	Longitudinal Slope j (m/m)	Canal Bottom Elevation (CBE)	Qmax Water Height h (m)
g23	199+73.66	2.00	0.00040	584.65	2.32
g23'	201+68.19	2.00	0.00040	584.58	2.32
g24	203+52.49	2.00	0.00040	584.50	2.32
g24'	204+43.62	2.00	0.00040	584.46	2.32
g25	207+80.01	2.00	0.00065	584.27	2.08
g26	211+65.54	2.00	0.00065	584.02	2.08
g27	213+72.57	2.00	0.00030	582.98	2.40
g27'	216+65.44	2.00	0.00030	582.90	2.40
g28	219+10.97	2.00	0.00030	582.81	2.40
g28'	227+62.77	2.00	0.00110	582.24	1.85
g29	233+33.13	2.00	0.00110	581.61	1.85
g29'	237+92.99	2.00	0.00057	581.48	2.12
g29''	239+49.47	2.00	0.00057	581.39	2.12
g30	242+82.36	2.00	0.00057	581.20	2.12
g30'	245+25.58	2.00	0.00057	581.06	2.12



B. Project Packages

29. According to recent decisions, the project has been split into 4 different packages, which are listed below, in Figure 2.1.

- i. **Package 1 - Advanced Procurement.** This comprises of the Kvemo Samgori Left Main Canal (Ch 313+42 to 397+00) which will focus on the repair and modernisation of the main canal, main canal including repairs to the access roads, removing vegetation and sediment build-up, repairs to inlets and outlets of tunnels and inverted siphon, repairs side and base of the canals and repairs to the tunnel sides. Repairs the bridges and outlets.
- ii. **Package 2.** Area 1 to 4 (GA distribution branches G23 to G39). The detailed design has not been completed yet. After completing final design, all details will be known. The following basic works are such as excavation of trenches, bedding the pipes in sand, laying HDPE pipes, installation of valves at key junction backfilling of the soil and installation flow meters.
- iii. **Package 3.** This covers the repair and modernisation of the main canal, access roads and bridges and supporting structures and pipelines of the Kvemo Samgori Left Main Canal Ch 397+00 to 488+66.7.
- iv. For Packages 1, 2 and 3 (Area 1, 2, 3, 4 and Main Canal Ch 397+00 to 488+66.) the IEE reports will be prepared as a separate documents.
- v. **Package 4.** Area 5 and 6 (GA distribution branches G41 and G42). For the design and build of the pressurised pipe distribution network, structures and hydrants and SCADA. Rehabilitation works on part of the Package 4 have already been carried out by GA with state funding in 2024-2026. Environmental and social due diligence reports (DDR) are planned for this package. This EDDR is entirely and specifically focused on this Package 4, with the objective of assessing the environmental compliance and legacy issues associated with the rehabilitation activities implemented in Areas 5 and 6.

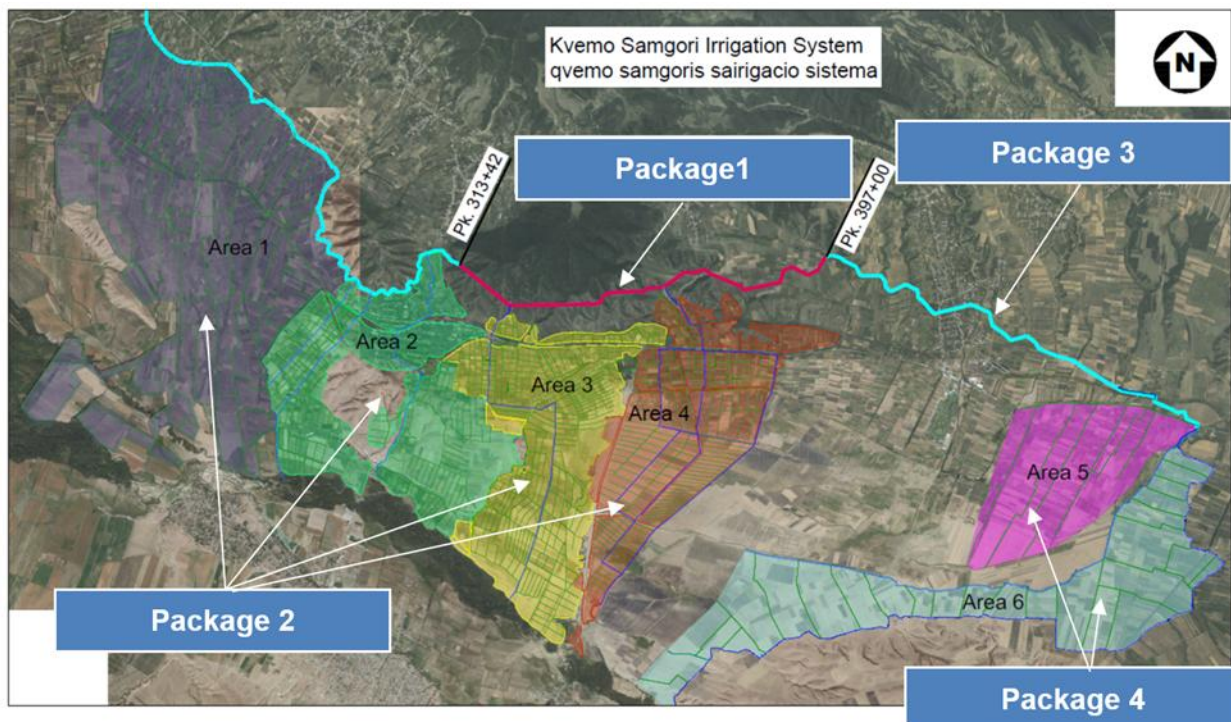


Figure 1. Overview of Irrigation Areas ¹²

¹ Source: Project Implementation Consultants Project Implementation Support, Piped Irrigation Design, Construction Supervision Design Review of Main Canal (Pk. 313+ 42 – Pk. 397 + 00)

² Note: This figure illustrates the full system context for reference; however, the current EDDR focuses exclusively on Package 4).

C. Areas 5 and 6³

30. Areas 5 and 6 represent the main Canal distributors - G-41 and G-42. Both areas are located in eastern Georgia, in the Gurjaani municipality (Kakheti region).
31. Distribution G-41 begins at PK459+03 of the left main canal of the Kvemo Samgori irrigation scheme. Its capacity is 0,64 m³/s and serves to irrigate a gross area of 1015 ha. The total length of the distributor G-41 is 3679.5 m. It includes seven second-order distributors:
 - Distributor G-41;
 - Distributor G-41-1 with branches;
 - Distributor G-41-2;
 - Distributor G-41-3 with branches;
 - Distributor G-41-4 with branches;
 - Distributor G-41-5;
 - Distributor G-41-6;
 - Distributor G-41-7 with branches.
32. The irrigated area of the distributor G-42 is 1739 ha/gross (not specified). Water is taken from the left main canal of the Kvemo Samgori irrigation system (additional feed - Lakbe reservoir). Design capacity 1.5 m³/s. Total length of the main canal - 17600 m (not specified). Total length of the second-order distributors – 52,400 general plans for Areas 5 m. (not specified).
33. Below are the general plans of Areas 5 and 6 (provided by GA)⁴.

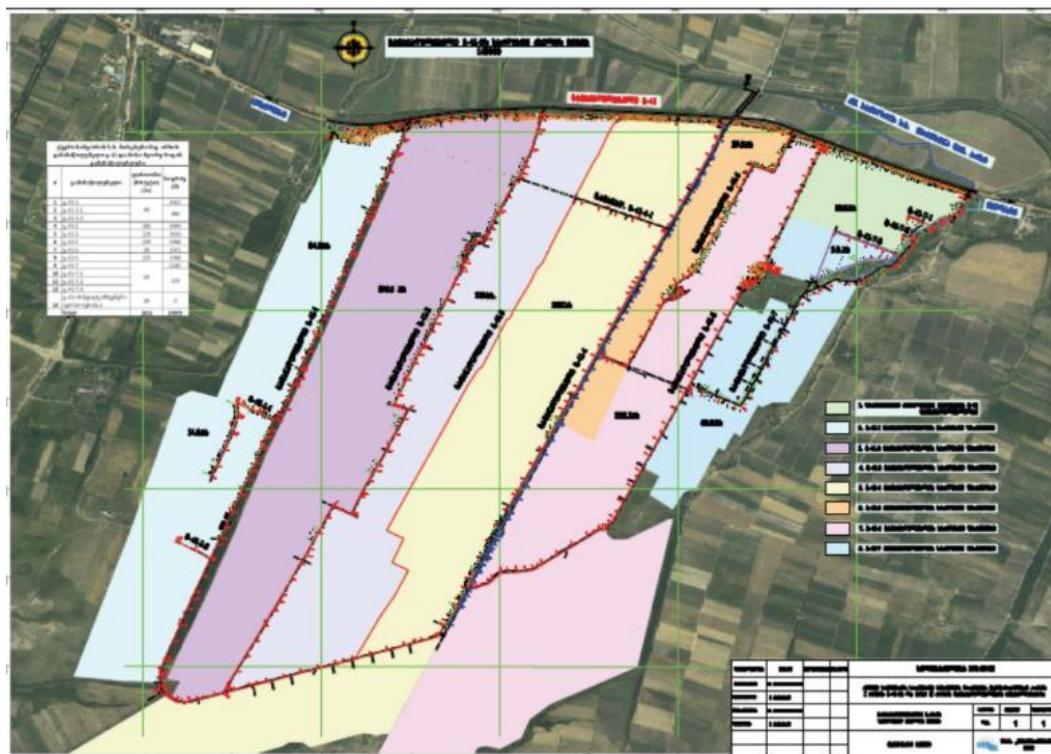


Figure 2. General plan of Area 5

³ Source: Design documentation provided by GA - Detailed engineering designs of G-41 and G-42 distributors

⁴ Source: Design documentation provided by GA - Detailed engineering designs of G-41 and G-42 distributors

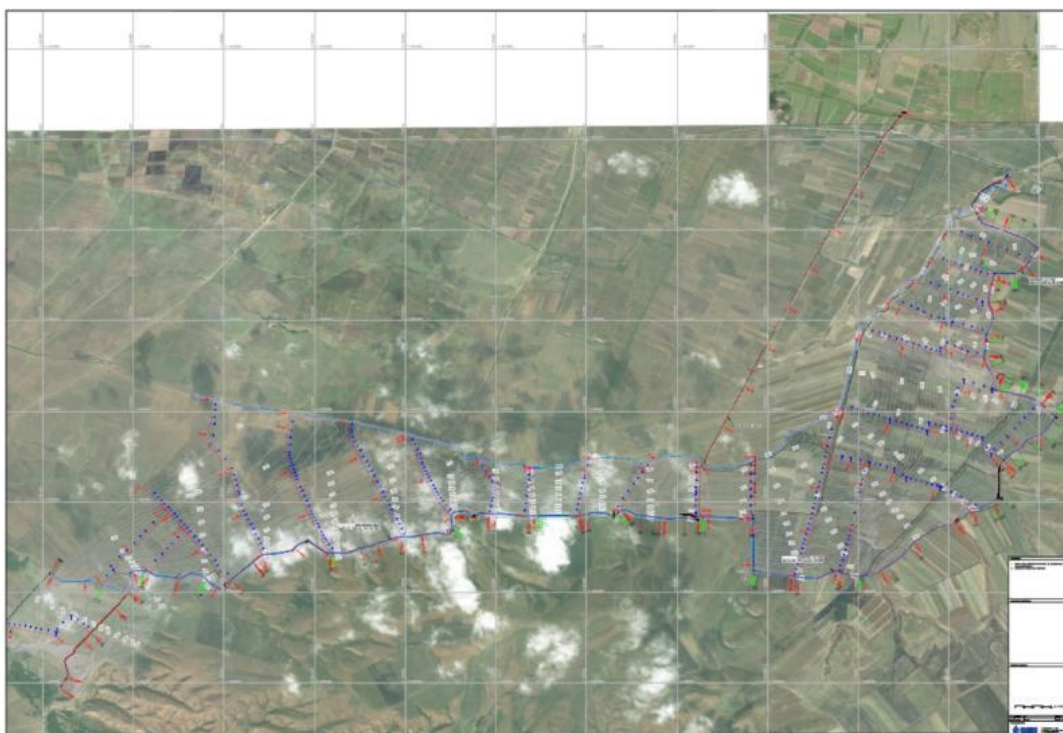


Figure 3. General plan of Area 6

D. Description of rehabilitation works carried out by GA

34. Information on the completed and ongoing works is based on institutional meetings with GA, responses to the questionnaires (A copy of the completed questionnaire is provided in Annex 1.), the official clarification letter and spatial data (KMZ files) provided by GA on May 20, 2026 (Annex 2), and field visits conducted in December 2025 and on April 2026.
35. Areas 5 and 6 rehabilitation commenced in 2024-2026 (Construction contractor - LLC "Smart Solution". Identification code: 405114406).
36. Rehabilitation works were carried out under the following titles:
 - i. "Rehabilitation of the left main canal of the I row G-41 and its II row distributors of the Kvemo Samgori irrigation system in Gurjaani municipality".
 - ii. "Rehabilitation of the left main canal of the I row G-42 distributor of the Kvemo Samgori irrigation system from PK 0+00 to PK 95+00 and its II row G-42-1÷G-42-12 distributors (stage I)".
 - iii. "Installation of hydrants on the II row G-42-9 ÷ G-42-11 distributors of the I row G-42 distributor of the Kvemo Samgori irrigation system".
37. Current Status of the Works (As of May 2026) and Spatial Analysis:
 - i. Area 5 (G-41) - Rehabilitation completed. At this stage, it is fully operational.
 - ii. Area 6(G-42) - Partially rehabilitated. Rehabilitation has been carried out on approximately 9 km of the canal. Currently, the contractor (LLC Smart Solution) is only executing localized activities on the network, specifically the installation of water-discharge hydrants and minor reinforced concrete works (such as wells and canal structures), primarily without the use of heavy machinery. Considering that June marks the onset of the active irrigation season, there is a strong likelihood that the current contractor may have already concluded these localized tasks and initiated demobilization procedures. The definitive status of their completion and

physical departure from the site will be strictly verified during the follow-up field visit scheduled between the issuance of the EDDR

- iii. **Untouched Section (Remaining 8-9 km) and Environmental Significance:** Approximately 8 to 9 km of the G-42 canal remains untouched, and no rehabilitation works are currently underway in this section. Importantly, this remaining segment is the closest to the Korughi Managed Reserve boundary. Based on the latest spatial data (KMZ files) officially provided in GA's May 20, 2026 clarification letter, a precise delineation of the work footprint has been established. As illustrated in Figure X below, the areas shaded in pink represent the completed rehabilitation zones (encompassing Area 5 and the northern portion of Area 6). The blue/grey polygon highlights the remaining, untouched 8-9 km segment of the G-42 distributor. Crucially, the bright green polygon delineates the official boundaries of the Korughi Managed Reserve.

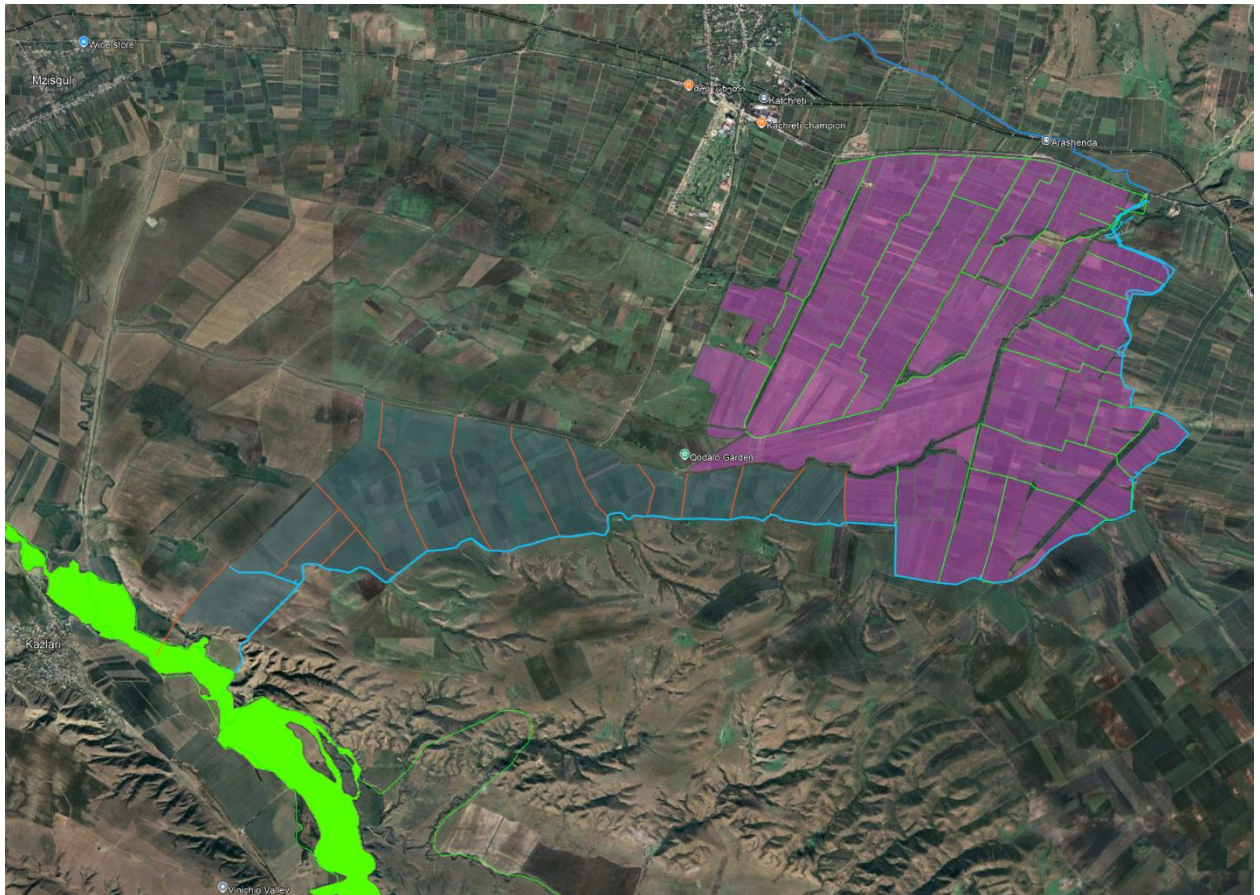


Figure 4. Spatial distribution of rehabilitation works. Pink: Completed areas; Blue/Grey: Untouched 8-9 km segment of Area 6; Green: Korughi Managed Reserve (Source: GA KMZ data, May 20, 2026)

38. This mapping officially confirms the most significant environmental finding of this audit: no rehabilitation works have yet been executed in the most ecologically sensitive segment of the project area - the southern periphery directly adjacent to the Korughi Managed Reserve. This spatial data perfectly corroborates the findings of the April 24, 2026 field visit, which, supported by date- and coordinate-stamped photo-evidence, visually confirmed that no construction interventions have occurred in this sensitive area so far. Furthermore, the absence of any prior construction activities in this vicinity was corroborated during our consultations with the Korughi Managed Reserve Administration. To formally substantiate these field observations and verbal confirmations, an official written request has been submitted to APA to confirm that no construction works have been executed within or in the immediate vicinity of the protected area boundaries. The

official response from APA is currently pending and will be explicitly reflected in the final EDDR.

39. This is a highly positive finding, as it ensures that any future rehabilitation activities in this segment will be planned and executed strictly under the regulatory framework and safeguard requirements of the ADB. This guarantees the implementation of rigorous pre-construction biological surveys, strict exclusion and buffer zone management, proper hazardous waste handling protocols, and continuous ecological monitoring. Such stringent international safeguards will effectively eliminate the risk of accidental encroachment or indirect impacts on the Korughi Reserve's unique ecosystems—protections that might be less rigorously enforced under standard local construction practices. (This issue is discussed in greater detail in the dedicated Protected Areas section of this report).
40. The following works were carried out in the rehabilitated sections:
 - i. Clearing the distribution route from trees and bushes;
 - ii. Restoration of distribution water intakes;
 - iii. Dismantling of existing water intake covers and installation of new depth covers;
 - iv. Cleaning of water distribution wells from sediment, plastering walls with cement and raising well walls;
 - v. Replacing soil irrigation canals with steel underground pipes and installing hydrants;
 - vi. Replacing concrete slabs of open canals with new ones;
 - vii. Repairing existing culverts (siphons), etc.
41. Rehabilitation works were carried out in the existing corridors of the irrigation system. No new routes were used.
42. Photos of the Area 5 and 6 before and after rehabilitation are provided in Annex 11.

1. Camp(s)

43. During the rehabilitation process, only one construction camp was used by the construction contractor, at the following coordinates: X -561479; Y-4608251.
 - Plot Cadastral Code - 51.18.62.501
 - Plot Type - Agricultural
 - Address - Gurjaani Municipality, Village Kodalo, "Sakaraulo Seri"
 - Property Type - Private Property
44. The former camp area is located away from settlements. There are several buildings nearby, which are likely to have been used as a farm in the past; however, no active sensitive social receptors were identified directly adjacent to the site during the field assessments.
45. There are no natural water bodies (rivers or other) in the vicinity of the area. There are no forested areas or any sensitive habitats in the vicinity of the area. There are only agricultural areas around.
46. During the site visit in December 2025, it was noted that the camp has not been fully demobilized. A storage container, some materials, and waste remained on site.
47. Subsequently, the site was rigorously re-inspected during the follow-up field visit on April 24, 2026. It is important to emphasize that no significant changes or improvements were observed between these two visits. Specifically, the area remains unfenced, and the temporary infrastructure has not been updated or expanded. Furthermore, almost no

heavy construction machinery was present on-site. This aligns with the current low-intensity, predominantly manual nature of the remaining works (e.g., hydrant installation), which employ a maximum workforce of about 10 people, confirming that the camp operates on a very small scale.

48. During the April visit, various types of waste were still observed scattered across the camp area (this issue is elaborated upon in detail in the dedicated 'Waste Management' subsection below). Regarding potential soil contamination or oil spills, no significant issues or new spills were observed. In fact, unlike the December visit, the active growth of spring vegetation (grass) in April fully covered the site, and no visible signs of hydrocarbon contamination or recent leaks were detected on the ground.
49. Comparative general views of the area used for the camp during both the December 2025 and April 2026 field visits are shown below.



Figure 5. View of the Camp area used during rehabilitation (December, 2025)



Figure 6. View of the Camp area used during rehabilitation (April, 2026)

2. Building materials manufacturing facilities

50. At this stage, there is no confirmed information that independent Building materials manufacturing facilities were used during the rehabilitation process. The follow-up field audit conducted on April 24, 2026, confirmed the absence of any signs or remnants of such facilities on the territory of the construction camp or within the project footprint. It is

likely that the construction contractor used existing facilities in the region (for example, concrete factories, inert materials crushing plants), etc. Most of the necessary materials were delivered in ready-made form.

51. Furthermore, it should be emphasized that due to the low-intensity nature of the works during this period, no significant signs of large-scale material utilization were observed. As previously noted, the current activities are primarily being executed manually, significantly reducing the reliance on such manufactured materials or heavy machinery.

3. Landfills

52. According to preliminary information provided by GA, dismantled construction waste and excavated spoil generated during the rehabilitation were purportedly transported to regional landfills and a specifically designated area in the village Naniani.
53. However, a detailed desk review of the documentary evidence provided by GA revealed significant chronological and factual discrepancies. Specifically, the municipal permission letter authorizing the use of the Naniani site dates back to 2020, whereas the actual rehabilitation works in Areas 5 and 6 commenced significantly later, in 2024. Therefore, this documentation is outdated and legally invalid for the recent construction activities.
54. Furthermore, GA has been unable to provide exact GPS coordinates for this alleged Naniani disposal site. Consequently, the audit team was unable to physically locate, inspect, or verify the environmental condition of this site during the April 24, 2026 field visit.
55. Adding to this critical data gap, formal written requests submitted to the construction contractor (LLC Smart Solution) requesting waste transfer notes, manifests, and exact dumping locations have gone unanswered. Without these manifests, there is no verifiable chain of custody for the generated waste.
56. Due to the reliance on outdated permits, the complete absence of waste transfer manifests, the lack of cooperation from the contractor, and the inability to physically verify the disposal location, this issue is classified as a Critical Non-Compliance with both national waste management regulations and the ADB Safeguard Policy Statement (2009).
57. This critical gap will be prominently reflected in the Corrective Action Plan (CAP). To address the historical legacy, GA will be required to formally identify the exact coordinates of the site prior to the Final EDDR to allow for retrospective environmental screening; failure to do so will require GA to formally acknowledge the waste as untraceable. Moving forward, to prevent the recurrence of this issue in the remaining untouched 8-9 km section, the formulation and approval of a strict, site-specific Waste Management Plan (identifying legally permitted and active disposal sites) will be a mandatory prerequisite before any future works can resume.

4. Temporary storage areas

58. Concrete slabs removed during the rehabilitation process are being stored in an area separate from the construction camp site. The coordinates of this location are: X - 561601; Y- 4608549.
- Plot Cadastral Code - 51.18.62.219
 - Plot Type - Agricultural
 - Address - Gurjaani Municipality
 - Property Type - "Georgian Melioration" LLC

59. This territory is located away from settlements. To the north of the territory, approximately 100 m away, the main highway of the Kakheti region passes. Other significant objects (for example, farms, public buildings, etc.) are not present in the vicinity of this territory. There is no natural water body of any kind (river or other) located in the vicinity of the territory. There are no forest zones or any sensitive habitats located in the vicinity of the territory. There are only agricultural areas around.
60. The follow-up field audit conducted on April 24, 2026, confirmed that the condition of this temporary storage area remains completely unchanged since the initial December 2025 visit. No new materials, additional waste, or hazardous substances have been placed at this location.
61. General views of the storage area from both the December 2025 and April 2026 field audits are provided separately below.



Figure 7. Temporary storage area for dismantled concrete structures during rehabilitation (December, 2025)



Figure 8. Temporary storage area for dismantled concrete structures during rehabilitation (April, 2026)

5. GA New Service Center Building

62. During the follow-up field audit conducted on April 24, 2026, the construction of Georgian Amelioration (GA) Service Center building was identified. This facility is located adjacent to the main highway of the Kakheti region and immediately borders the G-41 canal alignment (The coordinates: X - 561661; Y- 4608649).

63. Notably, during the initial field visit in December 2025, this specific site was completely vacant. This confirms that the construction of the service center was initiated and carried out during the intervening months. It must be strongly emphasized that the active construction phase of this facility is already fully completed.
64. The facility is situated on the same land parcel as the temporary storage area mentioned above. The cadastral details are as follows:
- Plot Cadastral Code - 51.18.62.219
 - Plot Type - Agricultural
 - Address - Gurjaani Municipality
 - Property Type - "Georgian Melioration" LLC
65. At the time of the April 2026 visit, the territory of the new service center was fully fenced. The exterior structure of the building was entirely finished, leaving only minor interior fitting-out works to be arranged. Therefore, no further heavy construction activities or associated environmental impacts are expected at this location.
66. Within the fenced perimeter, various types of scattered non-hazardous construction waste from the recent works were observed. The specific details regarding this finding, along with the necessary corrective measures, are elaborated upon in the dedicated 'Waste Management' subsection of this report.
67. General views of the newly constructed GA Service Center building are shown below.



Figure 9. GA New Service Center Building (April, 2026)

6. Layout of main and temporary infrastructure as of April 2026

68. Location of the old camp and Concrete slabs storage area is given below.

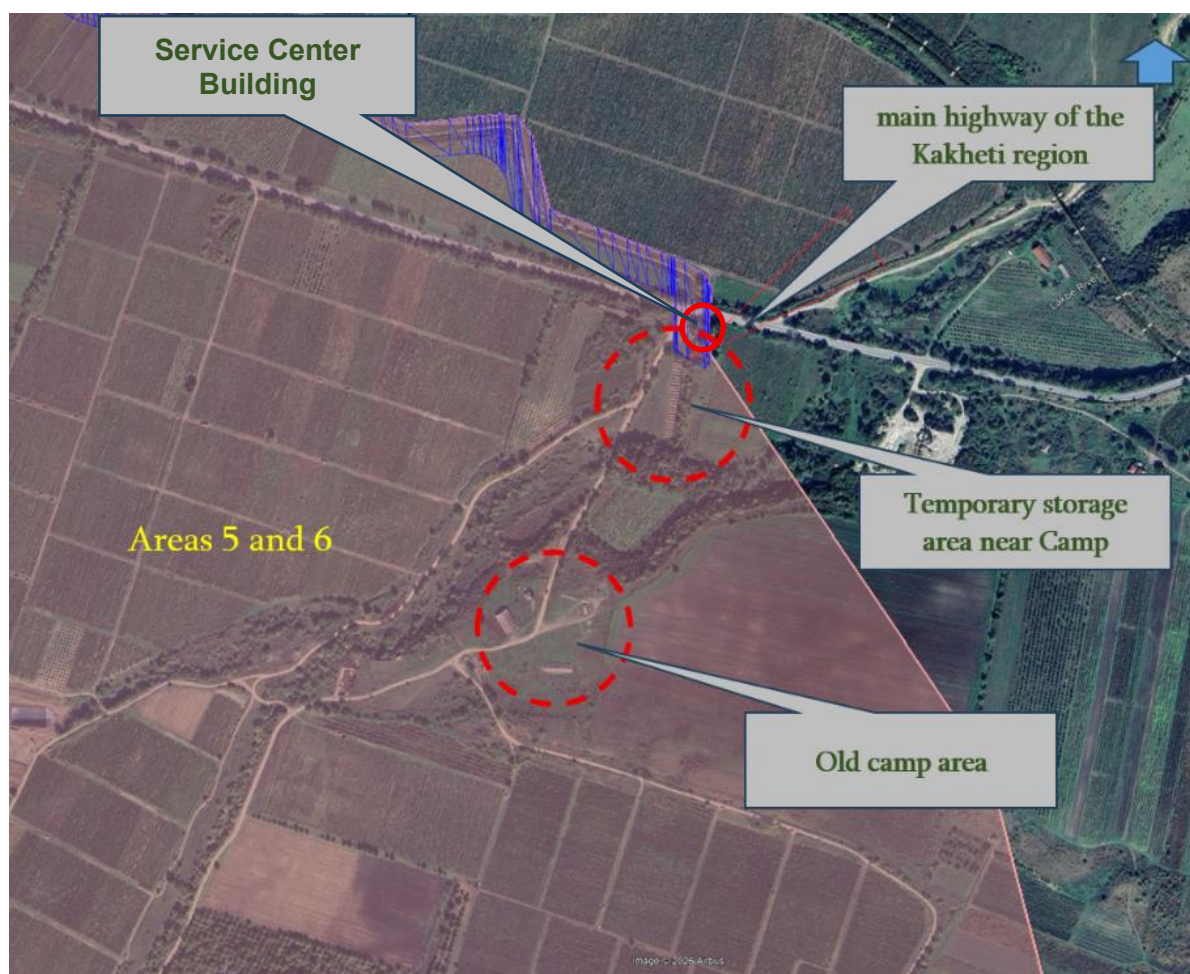


Figure 10. Location of the old camp, concrete slabs storage area and new service center building

III. LEGAL AND INSTITUTIONAL FRAMEWORK

A. National Legislation

69. The rehabilitation and construction works in Areas 5 and 6 were initiated and largely executed under the national budget of Georgia. From a regulatory perspective, these activities followed the Georgian environmental legal framework applicable at the time of project inception.
70. **Environmental Assessment Code (EAC) 2017 (Last amended 26.06.2025).** The Code establishes a legal basis for regulating issues related to projects and strategic documents, the implementation of which may have a significant impact on the environment, human life and health. It regulates the procedures related to environmental impact assessment, strategic environmental assessment, public participation in decision-making, transboundary environmental impact assessment; defines the rights and obligations of the developer, the planning authority, the public and the competent authorities in the course of decision-making envisaged by this Code; describes procedures of issuing Environmental Decision; exemption rules. The law includes two annexes. Annex I list activities subject to EIA, and Annex II - lists activities/projects that require screening procedure. Screening is the responsibility of NEA. According to the document, the main stages of environmental impact assessment include:
- Screening.
 - Scoping procedure.
 - Preparation of the EIA Report by the developer or the consultant.
 - Ensuring public participation.
 - Examination of the information presented in the EIA Report and any supplementary information provided by the developer to the NEA as well as assessment of the information received through the public participation and consultation processes.
 - Expertise procedure.
 - Implementation of transboundary environmental impact assessment procedure (weather appropriate).
 - Issuance of Environmental Decisions or the decision on refusal to implement the project by the NEA.
71. In June 2025, significant changes were made to the Code. Among them, the screening, scoping, and EIA procedures were changed. The list of activities subject to screening and EIA was also clarified, including the fact that river bank protection works are no longer subject to the screening procedure.
72. According to the EAC, irrigation rehabilitation projects, which do not change the corridor route, the amount of water consumed and other significant parameters, did not trigger the mandatory requirement for an Environmental Impact Assessment (EIA) or the issuance of an Environmental Decision. Consequently, no formal site-specific Environmental Management Plan (EMP) was legally required or developed during the primary construction phase.
73. While the project was initially exempt from EIA requirements, this EDDR will evaluate whether any remaining works (specifically the final 8 km of package G-42) or future operational maintenance activities now fall under Annex II of the amended Code, which may require a new screening procedure by the Ministry. The audit will ensure that the transition from national to international oversight is legally seamless and technically compliant.
74. However, national legislation requires that projects that are not subject to EAC requirements and do not require a screening/EIA procedure should be subject to the requirements of other normative documents. The rehabilitation process of Area 5 and Area 6 falls under the scope of regulation of the following documents:

75. **Law of Georgia on Water Resources Management (Last amended 26.06.2025)** covers the sustainable use and protect of water and to prevent contamination, pollution and depletion of water. This law regulates the intake and discharge of water as well as setting out the procedures for water standards and maximum permissible rates of emissions. It also sets out the river water protection zone to protect the river from pollution, littering, fouling and depletion. For rivers such as Iori, the protected area is 50 m from the edge of the riverbed. For small rivers that cross the main channel, the protected area is 10 m from the edge of the riverbed. This should be taken into account when planning the location of construction camps, including potentially polluting temporary facilities.
76. **Waste Management Code 2015 (Last amended 26.06.2025)** covers the implementation of measures to implement the waste management hierarchy (prevent, reuse, recycle and recover) as well as to ensure safe disposal to protect the environment and human health. The waste is responsible for the storage, collection, transportation, disposal or recovery, recording and reporting of waste to prevent pollution and risks to human health. If more than 2 tons of hazardous waste is produced in a year, a separate collection system and appropriate training for all staff handling the waste are required and an appropriate environmental manager should ensure safe management.
77. The Construction Contractor or Operating company must hire a duly qualified environmental manager who will be obliged to develop Waste Management Plan and submit it to MEPA for approval. The Construction contractor is obliged to control the process of managing the originated waste through the final disposal of the waste. waste management plan is updated every 3 years or in case of changes in the type and quantity of waste generated and significant changes in the waste management process.
78. Crucially, the Code is underpinned by the "Principle of Precautionary Measures" (Article 5, Clause 2a), which mandates that action must be taken to prevent waste-induced threats to the environment, even in the absence of scientifically confirmed data. This principle is highly relevant to the current project, as a relatively small quantity of old pipe remnants - strongly suspected to be Asbestos-Containing Materials (ACM) - were identified in several locations within the project area. Importantly, these pipes are currently intact. Conducting laboratory analysis would necessitate mechanical sampling (e.g., breaking or cutting the pipes), which creates an unnecessary and severe risk of releasing hazardous asbestos fibers into the air. Furthermore, considering the local context in Georgia, there is a distinct lack of accredited laboratories equipped for such specialized testing, and especially for such a small volume of waste, the existing practice is highly time-consuming, prohibitively expensive, and poorly established. Therefore, the most practical, safe, and legally compliant approach is to apply the precautionary principle and classify these intact pipes as hazardous waste by default. This ensures they are handled, packaged, and disposed of in strict accordance with asbestos safety protocols, entirely avoiding the physical risks and logistical barriers associated with redundant laboratory testing.
79. **Law of Georgia on Protection of Ambient Air 1999 (Last amended 02.07.2025)** regulates the protection of atmospheric air from harmful anthropogenic influences (including hazardous, radiation, microorganisms and biological matter, noise, vibration, electromagnetic fields and other impacts) to ensure a safe environment for human health and the natural environment. It outlines the procedures for the maximum permitted limits for hazardous substances into the air.
80. **Law of Georgia on Cultural Heritage 2007 (Last amended 12.12.2024)** covers the protection of cultural resources. It outlines the chance find procedures, requiring the construction to pause until appropriate investigation and mitigation measures are taken and to protect known cultural resources.
81. **Law of Georgia on Soil Protection 1994 (Last amended 02.11.2021).** The Law sets the maximum permissible concentrations of hazardous matter in soil and restricts the use

of fertile soil for non-agricultural purposes, the execution of any activity without prior striping and preservation of topsoil, open quarry processing without subsequent re-cultivation of the site, terracing without a preliminary survey of the area and approved design, agricultural activities that could lead to overgrazing, woodcutting, damage of soil protection facilities, and any activity that could deteriorate soil quality (e.g. unauthorized chemicals, etc.). The law sets a general basis for the protection of soil from erosion, contamination, sedimentation, sanitization, secondary swamping, etc., regulation of the open extraction of natural resources and construction materials, and impacts from human economic activity.

82. **Law on Wildlife 1996 (Last amended 29.06.2023).** The law mandates the MEPA to regulate wildlife use and protection overall territory of the country, including existing protected areas. The law empowers the MEPA to issue hunting permits and licenses, declare hunting areas, control poaching, etc. It is one of the main goals of the Environmental Protection Law to support the preservation of biodiversity of the country, the preservation of rare, endemic and endangered species, the protection of the marine environment, and the maintenance of the ecological balance (Art. 3.1 (d)). The Law contains regulations on both wild animals and plants which are threatened by extinction and those which are not. Two main legal acts regulate species protection in Georgia. This law also determines activities in protected areas by the corresponding structural units. Potential poaching by the workers should be controlled also during construction works.
83. **Law on Red List and Red Book of Georgia 2003 (Last amended 02/07/2025)** The Law establishes the legal basis for the preparation and approval of the Red List and Red Data Book to provide these instruments for the protection and restoration of threatened species of flora and fauna.
84. **Forest Code of Georgia 2020 (Last amended 30.11.2023).** This aims to conserve the biodiversity of Georgia's forests and preserve the natural and cultural environment of the forest. The protected forest; is an area of forest forming species that are within 100m from road edge headworks or riverbanks, on eroded land, etc. and should be managed in line with the law on the system of protected areas and the protected area management plan.
85. **Law on the system of the protected areas 1996 (Last amended 26.04.2022).** Aims to protect and restore the biodiversity of Georgia by establishing an area for protecting and restoring significant national heritage. There are different types of protected areas – state reserves, national parks, natural monuments, managed reserves etc. Area 5 and 6 are located near the Korughi reserve, and this law is important within the framework of the project under consideration.
86. **Law on Environmental Liability 2021 (Last amended 26.06.2025).** This law introduces the polluters pays principle, regulating the prevention of significant environmental damage, mitigation (prevention) of damage, damage assessment and remedial measures. This includes criteria for determining significant harm.
87. **Law on Public Health 2007 (Last amended 13.12.2024).** The law defines the rights and obligations of the population and legal entities in the field of public health. To establish an environment safe to public health, the Ministry sets the qualitative mandatory standards for the environment safe for human health (atmospheric air, water, soil, noise, vibration, electromagnetic radiation), including maximum permissible concentrations and rates of harmful impact. It's an obligation to prevent activities which cause infectious and non-infectious diseases spreading, to protect the sanitary and epidemiological standards, and to inform the public health department about all emergencies caused by the violation of the sanitary norms. The observance of the standards is controlled by appropriate state structures. The responsibility for the internal and external audits rests with a certified, independent laboratory.

B. ADB Safeguard Policy Statement (2009) and Due Diligence Requirements

88. The project is categorized as Category B for environment under ADB's safeguard system. In the case of Areas 5 and 6, where part of the infrastructure was implemented prior to ADB's direct involvement, the applicable safeguard requirements include not only the preparation of environmental assessment instruments for future activities, but also an environmental audit and due diligence for existing facilities. Accordingly, this Environmental Due Diligence Report (EDDR) has been prepared in line with the ADB Safeguard Policy Statement (2009), specifically Safeguard Requirement 1 (Environment) – Environmental Audit of Existing Facilities. The report aims to assess past and ongoing activities, identify environmental liabilities and safeguard gaps, and define corrective measures required to achieve compliance with ADB requirements and international good practice.

Core Objectives of ADB Safeguards:

89. The primary goal of the ADB SPS 2009 is to ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process. The policy is underpinned by several key principles relevant to this EDDR:
- Environmental Assessment: Conduct an assessment to identify potential impacts and risks. For existing facilities, this takes the form of an audit to identify past or present concerns.
 - Pollution Prevention and Abatement: Apply pollution prevention and control technologies consistent with international good practices, such as the World Bank Group's Environment, Health and Safety (EHS) Guidelines.
 - Occupational and Community Health and Safety: Ensure that workers and the local community are protected from project-related risks, including hazardous materials (e.g., asbestos), unsafe site conditions, and physical hazards.
 - Biodiversity Conservation: Implement measures to avoid, minimize, or mitigate impacts on protected areas (such as the Korughi Managed Reserve) and maintain the ecosystem's integrity.
 - Grievance Redress Mechanism (GRM): Establish and maintain a transparent, accessible, and effective mechanism to receive, register, and address affected peoples' concerns and grievances in a timely manner, with proper documentation and follow-up, in line with ADB SPS (2009) requirements

Due Diligence and Audit Scope:

The objective of this EDDR is to determine whether the past and ongoing activities in Areas 5 and 6 are consistent with applicable national legislation, ADB SPS (2009) requirements, and relevant international good practice. For this purpose, the due diligence adopts a compliance-based and risk-informed audit approach, comprising the following elements:

- Environmental Audit and Legacy Issue Assessment: Identifying any outstanding environmental liabilities, such as improper waste disposal (ACM), soil contamination at camp sites, or unresolved grievances from the initial construction phase.
- Gap Analysis: Evaluating the deviations between the national environmental practices (under which the project started) and the more stringent requirements of ADB SPS 2009. A primary gap identified is the absence of a site-specific EMP and formal monitoring and formal consultation and grievance procedures during the nationally funded phase.

- Corrective Action Planning (CAP): Defining prioritized, time-bound measures to bring the project into full compliance with ADB standards. The CAP will address identified gaps, ensuring that future works and maintenance activities (including the remaining 8 km of G-42) adhere to international best practices.

C. Comparison of Georgian Legislation and ADB Requirements

90. While the Georgian legal framework for environmental protection aligns well with many international standards, certain gaps exist when compared to the stringent requirements of the ADB Safeguard Policy Statement (2009). For projects like the rehabilitation of Areas 5 and 6, which initially proceeded under national regulations without triggering the need for an Environmental Impact Assessment (EIA), the most significant divergence lies in procedural implementation and active oversight.
91. Key Differences include:
- **Site-Specific Environmental Management Plans (EMP)**: Under national legislation, the absence of an EIA requirement often means no binding, site-specific EMP is developed. Conversely, ADB SPS (2009) mandates a robust, project-specific EMP detailing mitigation measures, monitoring requirements, and institutional responsibilities regardless of formal categorization.
 - **Grievance Redress Mechanism (GRM)**: While Georgian law guarantees the public's right to appeal, it does not explicitly mandate the establishment of a localized, project-specific GRM prior to construction (especially for non-EIA projects). ADB considers a localized GRM a mandatory requirement for continuous community engagement.
 - **Pollution Prevention and EHS Guidelines**: ADB strictly adheres to the World Bank Group's Environment, Health, and Safety (EHS) Guidelines. While national standards (e.g., maximum permissible concentrations) exist, they are often less comprehensively enforced at small-scale construction sites compared to ADB's proactive pollution prevention approach.
 - **Audit of Existing Facilities**: ADB explicitly requires an environmental audit (such as this EDDR) and the subsequent formulation of a Corrective Action Plan (CAP) to address historical non-compliances when taking over ongoing or completed projects - a concept not fully institutionalized in Georgian national law for projects outside the EIA process.
92. In the event of a discrepancy between the national legislation and ADB SPS (2009), the more stringent requirement shall prevail for the remainder of the project implementation.

IV. BASELINE ENVIRONMENTAL CONDITIONS

A. Justification for Baseline Data Transferability and Scope of Assessment

93. The project Areas 5 and 6 are functionally and hydraulically integrated parts of the Lower Samgori Left Main Canal irrigation system. Understanding this connectivity is essential for defining the environmental safeguard boundaries of this Due Diligence Report.
94. Initially, baseline data from the Package 1 (Main Canal) Initial Environmental Examination (IEE, 2023-2025) was considered for these secondary systems. However, to comply with ADB SPS SR1 Paragraph 8, which mandates that transferability must be explicitly demonstrated rather than asserted, a detailed comparative evaluation was conducted.
95. It was determined that the Main Canal (Package 1) alignment differs significantly from the Areas 5 and 6 command areas in terms of soil association, land-use intensity, and distance to sensitive ecological receptors (such as the Iori floodplain and Korughi Managed Reserve). Conversely, the environmental and socio-economic baseline established for Package 2 (Irrigation Areas 1, 2, 3, and 4) during the 2025-2026 comprehensive IEE studies is highly representative and directly transferable to Areas 5 and 6.
96. Areas 1-4 and Areas 5-6 share identical geomorphological zones, operate under the same agricultural paradigm (predominantly viticulture), border the exact same protected area (Korughi Managed Reserve) to the south, and share the identical hydrological network (Iori River basin). The primary distinction between the two packages is administrative: Areas 1-4 fall within the jurisdiction of Sagarejo Municipality, whereas Areas 5 and 6 are located entirely within Gurjaani Municipality. A comparative analysis is presented in Table below.

Table 2. Comparative Baseline Parameters and Transferability Conclusion

Environmental Parameter	Package 1 (Main Canal)	Package 2 (Areas 1, 2, 3, 4) - Proxy	Areas 5 & 6 (Target Package)	Conclusion on Data Transferability & Survey Needs
Land Use & Topography	Mixed terrain, linear infrastructure corridor.	Flat/hilly Iori plateau, intensively modified agricultural landscape (predominantly vineyards).	Flat/hilly Iori plateau, intensively modified agricultural landscape (predominantly vineyards).	Highly Transferable. Topography and land use are virtually identical.
Soil Texture & Contamination	Varies along 80+ km alignment.	Brown and Cinnamonic calcareous soils; highly fragmented agricultural plots.	Brown and Cinnamonic calcareous soils; active agriculture.	Transferable, but requires localized validation. General soil type is identical, but localized camp/spoil contamination needs site-specific testing.
Proximity to Protected Areas	Generally distant from sensitive floodplain reserves.	Southern borders directly adjacent to Korughi Managed Reserve and Iori River floodplains.	Southern borders directly adjacent to Korughi Managed Reserve and Iori River floodplains.	Highly Transferable. Both packages share the exact same ecological buffer zone constraints.

Environmental Parameter	Package 1 (Main Canal)	Package 2 (Areas 1, 2, 3, 4) - Proxy	Areas 5 & 6 (Target Package)	Conclusion on Data Transferability & Survey Needs
Surface Water Quality (Iori River)	Upstream characteristics.	Mid-stream characteristics, subjected to agricultural runoff and quarry sediment loads (TSS).	Mid-stream characteristics, identical exposure to agricultural runoff and upstream sediment.	Transferable. The water source and quality parameters affecting the secondary network are identical.
Ambient Noise & PM10/Air Quality	Influenced by diverse regional traffic and diverse settlements.	Influenced by local rural roads, agricultural machinery, and Kakheti Highway (S5) construction.	Influenced by local rural roads, agricultural machinery, and Kakheti Highway (S5) operation/construction.	Transferable, but requires localized validation. General rural baseline applies, but site-specific noise/dust levels near Area 5/6 camps and remaining 8km section require verification.
Biodiversity Indicators	Diverse transit corridors.	Low-value modified habitats, artificial windbreaks, with sensitive ecotones only near the Korughi border.	Low-value modified habitats, artificial windbreaks, with sensitive ecotones only near the Korughi border.	Transferable, but requires targeted screening. General fauna/flora is identical, but an area-specific IBAT and field walkover is needed for the remaining untouched 8km.

B. Physical Setting, Climate, and Topography

97. Administratively, Area 5 and Area 6 are included in the borders of Gurjaani Municipality (Kakheti Region). From a physical-geographical point of view, the territory is located on the Iori Plateau. The study area is located in the middle reaches of the River Iori, in the areas surrounding the villages of Melaani and Kachreti.
98. The climate in the study area is a dry subtropical climate, transitioning to continental. Based on regional meteorological data (e.g., Sagarejo and Mughanlo stations), the mean annual air temperature is approximately 11.9°C. July is the warmest month (averaging 23.5°C), and January is the coldest (averaging 0.3°C). The average annual precipitation is around 744.8 mm, with the highest rainfall occurring in spring and early summer.
99. According to geomorphological zones, the study area falls into the subzone of flat relief. According to tectonic zones, the territory is located on the border of the Kartli and Garekakheta molasse subzones of the Transcaucasian mountains. Seismicity - 9 points (MSK-64 scale). Geologically, these areas are represented by hard plastic loam and semi-solid clay with inclusions of gravel grains.
100. However, a relatively more variable topography—characterized by terrain intersected with dry ravines and gullies—is observed towards the southern perimeters of Areas 5 and 6, in the vicinity of the Iori River floodplains. It is important to clarify that this specific rugged relief is predominantly located outside the direct spatial boundaries of the investigated subproject area, being confined largely to the immediate banks and slopes of the Iori floodplains.

C. Land Use and Socio-Economic Conditions

101. The soil cover within the command area consists primarily of Cinnamonic calcareous soils and Brown soils, typical for areas of intensive agriculture in eastern Georgia. The absolute majority of the local population is engaged in agriculture, and the land ownership landscape is highly fragmented. Consistent with the adjacent Areas 1-4, viticulture (vineyards) is the dominant high-value perennial practice in Areas 5 and 6, alongside cereal production and localized animal husbandry.
102. The southern peripheries of the project corridor, particularly the buffer zones situated in the immediate vicinity of the Korughi Managed Reserve, are actively utilized by the local population as open pasturelands for extensive livestock grazing (cattle and sheep)



Figure 11. Typical grazing activities near the southern peripheries of the project area

103. It is important to note that the presence of civil infrastructure varies across the project footprint. Low-voltage overhead power transmission lines are predominantly concentrated in the northern parts of Areas 5 and 6 (closer to the regional highway and settlements), where the rehabilitation activities have already been practically completed. Conversely, within the remaining untouched 8-9 km section of Area 6 (G-42 distributor) situated further south, the presence of such infrastructure is extremely low. Because there are no immediate residential settlements directly bordering this specific alignment, dense utility networks - such as paved roads, large bridges, or overhead power lines— are practically absent. The territory is exclusively dedicated to active land cultivation (vineyards and orchards), significantly reducing the risk of third-party utility disruptions during future pipe-laying works.
104. During the follow-up field visit - April 24, 2026, a significant socio-environmental issue was documented. Due to the severely degraded and fragmented state of the existing open concrete canals, local farmers frequently resort to unauthorized, improvised water extraction. They manually excavate artificial dirt trenches to divert irrigation water directly to their plots.
105. This unregulated practice is causing severe secondary impacts: It further physically damages the already compromised concrete structure of the G-42 distributor, localized flooding washes out and degrades adjacent unpaved rural roads, and it fosters a highly unsystematic and unequal distribution of water resources among the community.



Figure 12. Unauthorized artificial trench dug by locals, causing damage to the degraded G-42 canal and the adjacent local unpaved road (April, 2026)

106. The chaotic conditions observed on-site strongly reaffirm the urgent necessity of completing the rehabilitation works. Transitioning the remaining 8-9 km from an obsolete open canal to a modern, closed underground pressurized pipe system will effectively eliminate the possibility of unauthorized physical interventions. This modernization is critical to ensuring equitable water distribution, preventing localized soil erosion, and protecting the local rural road network from continuous water damage.

D. Water Resources

107. The irrigation Areas 5 and 6 do not cross any large, perennial surface rivers internally. Their southern boundary, however, is situated in proximity to the Iori River. The project corridors only cross small, seasonal ravines or agricultural drainage ditches that completely dry out during summer.

108. **Mkrali Ole Ravine:** The closest hydrological feature to the temporary construction camp is a small, seasonal ravine locally known as "Mkrali Ole". This feature is strictly ephemeral in nature. During both the initial December 2025 and the follow-up April 24, 2026 field audits, the ravine was found to be completely dry, indicating that it likely only conveys water during periods of intense rainfall. The Mkrali Ole has no agricultural or economic significance and eventually drains into the Iori River. There are no significant industrial or municipal pollution sources in its immediate vicinity; the only potential source of minor contamination would be occasional surface runoff from nearby small-scale farming operations.

109. **Iori River Water Quality:** Based on historical data general chemical parameters - such as biological oxygen demand, nitrates, phosphates, chlorides, and heavy metals (lead, zinc, copper) - did not exceed maximum allowable concentrations. The primary external sources affecting general water quality in the broader region are nutrient runoff from agriculture, unorganized sewage from nearby settlements, and stormwater.

110. A critical characteristic of the Iori River is its high suspended sediment level, which is directly exacerbated by upstream stone quarrying and processing activities. Previous instrumental monitoring demonstrated a severe daily fluctuation: before quarry operations begin (around 6:00 AM), suspended particles in the water are relatively low (approximately 15 NTU). However, once the plants start operating, the concentration of suspended particles increases almost 5 to 6 times, reaching an average of 75 NTU. This significant sediment load (introducing hundreds of kilograms of suspended particles daily) is continuously directed into the irrigation network, historically contributing to the rapid siltation of the open canals.

111. **Future Baseline Verification Strategy:** Regarding the Iori River, targeted surface water sampling has already been conducted at three distinct upstream locations by the National Environmental Agency (NEA) as part of the baseline studies for the adjacent Package 2 (Areas 1-4). While the physical samples have been successfully collected, the formal laboratory analytical results are currently pending and are expected to be available by the end of June 2026. Once finalized, this highly representative data will be directly integrated into the Final EDDR, precluding the need for redundant river water sampling for Areas 5 and 6.
112. Conversely, assessing the Mkrali Ole ravine presents a practical challenge: given its consistently dry nature, obtaining valid surface water samples is highly improbable. Therefore, to ensure baseline accuracy and to verify the absence of any historical or camp-related contamination, a targeted laboratory analysis of the bottom sediments from the Mkrali Ole is planned.
113. These planned baseline verification activities are further detailed in the FUTURE WORK PLAN AND TIMELINE section of this report.

E. Ambient Air Quality, Noise, and Vibration

114. Generally, the Areas 5/6 lack major stationary or industrial sources of air pollution, continuous vibration, or severe noise. The primary source of emissions and ambient noise in the wider region is vehicular traffic, particularly along the East-West (S5) regional highway crossing the northern perimeters.
115. Field Screening (April 2026): During the environmental audit on April 24, 2026, preliminary screening measurements for ambient noise were conducted across the project area using a handheld sound level meter. The readings indicated a distinct spatial gradient. Near the newly constructed regional service center in the northern section - adjacent to the main transport corridors - noise levels fluctuated between 50 and 80 dBA, heavily dominated by active traffic. In contrast, within the middle and southern segments of the project corridor, moving towards the Korughi Managed Reserve where the remaining rehabilitation works are pending, the ambient noise was significantly lower and more natural, ranging strictly between 30 and 50 dBA.



Figure 13. Preliminary ambient noise screening conducted near the regional service center (April 24, 2026)

116. Future Baseline Verification Strategy: While these initial April measurements provide a useful general profile of the acoustic environment, they are considered indicative screening tools rather than a formal safeguard baseline. Therefore, to ensure full compliance with ADB SPS requirements and to establish an unimpeachable legal baseline for the contractor, a comprehensive instrumental monitoring campaign will be executed.
117. A certified environmental laboratory utilizing strictly calibrated, certified equipment will be commissioned. They will conduct targeted measurements for daytime ambient noise, localized vibration, and critical air quality parameters (specifically Particulate Matter: PM10 and PM2.5). These formal baseline measurements will be strategically concentrated in the southern coordinates of the command area, specifically to establish the formal pre-construction conditions for the untouched 8-9 km segment of Area 6 before any civil works or heavy machinery mobilization resumes.
118. These planned baseline verification activities are further detailed in the FUTURE WORK PLAN AND TIMELINE section of this report.

F. Biological Environment and Protected Areas

1. Flora and Habitats

119. Based on the general ecological reconnaissance conducted during the April 2026 field audit, supported by regional biological data from the adjacent areas, the terrestrial habitats within the project footprint of Areas 5 and 6 are predominantly composed of highly modified, anthropogenic agricultural landscapes.
120. The natural vegetation has been significantly modified by intense agricultural activities (such as grazing and land cultivation) and the long-term operation of the existing irrigation system. In most sections, intensively cultivated arable lands, vineyards, and corn fields account for the absolute majority of the area.
121. In certain parts of the surrounding areas, naturally occurring hybrid poplar trees (*Populus hybrida*) and low-value forest elements such as *Ulmus campestris*, *Morus alba*, *Malus communis*, *Pyrus communis*, *Crataegus kyrtostyla*, *Prunus divaricata*, *Prunus spinosa*, and *Paliurus spina-christi* are widespread. Such plant communities typically develop on previously cleared forests and represent their remnants or derivatives.
122. Absence of High Conservation Value (HCV) Flora: During the April 2026 field audit, no pristine natural habitats or critical floral communities were identified within the direct canal right-of-way (RoW). While the broader region historically hosts small fragments and isolated individuals of 12 woody species: *Taxus baccata*, *Quercus macranthera*, *Quercus pedunculiflora*, *Pterocarya pterocarpa*, *Pistacia mutica*, *Juglans regia*, *Ulmus minor*, *Nitraria schoberi*, *Prunus microcarpa*, *Juniperus foetidissima*, *Juniperus excelsa*, and *Juniperus polycarpus*, as well as 7 endemic species *Berberis iberica*, *Alnus glutinosa*, *Corylus avellana*, *Crataegus caucasica*, *Pyrus caucasica*, *Pyrus salicifolia*, and *Quercus macranthera*.
123. However, these species are mainly distributed on the Gobori ridge and in the floodplain of the Iori River. It is less likely that they will be encountered in the areas under consideration.
124. Overall, it can be concluded that the project corridor contains low-value habitats—a heavily disturbed mosaic of agricultural fields and degraded secondary forest fragments. The anthropogenic impact on the original vegetation cover is quite significant, ensuring that civil works within the established RoW will not cause meaningful loss of native biodiversity.



Figure 14. Typical highly modified agricultural habitats (vineyards and arable lands) and low-value secondary vegetation dominating the project corridor

2. Fauna

125. **Mammals:** During the ecological reconnaissance conducted on April 24, 2026, no significant concentrations of fauna, migratory bottlenecks, or critical wildlife habitats were observed in any section of the project corridor. The faunal diversity inside these active agricultural zones is naturally low and highly adapted to constant human presence.
126. Based on the project's initial environmental assessments and regional data, the generic composition of mammals common in the wider project area is mainly represented by species typical to steppes and floodplains. The following species of small mammals are likely to be found foraging or inhabiting the margins of the project area: hamster (*Cricetus cricetus*), levant mole (*Talpa levantis*), field mouse (*Apodemus mystacinus*), snow vole (*Chionomys roberti*), house mouse (*Mus musculus*), brown rat (*Rattus norvegicus*), and Southern white-breasted hedgehog (*Erinaceus concolor*).
127. **Bats (*Chiroptera*) and Roosting Sites:** Special attention was given to identifying potential habitats for bat species. The April 2026 audit confirmed the absolute absence of large-crowned, mature trees with natural hollows, or suitable artificial roosting

structures (such as abandoned buildings, caves, or deep crevices) within the targeted RoW of Areas 5 and 6.

128. Habitats attractive to bats are strictly confined to the perimeter of the Korughi Managed Reserve and the dense natural forests of the Iori River floodplains. Consequently, the localized rehabilitation of the canals will have absolutely no direct impact on bat populations or their roosting sites.
129. **Avifauna:** Bird life within the direct footprint is primarily limited to small, common bird species typical of steppes and agricultural landscapes. During the site visits, these small birds were observed utilizing the agricultural fields and rural road margins solely for temporary foraging purposes.
130. **Key Target Species:** To ensure robust compliance with ADB SPS requirements, specific attention was given to target species historically identified in the wider region. It must be explicitly clarified that the IBAT and GBIF screenings referenced below were originally conducted as part of the IEE for the immediately adjacent Package 2 (Areas 1-4).
131. Given the high geographic proximity and identical ecological profile of the region, this data is being utilized as a highly reliable temporary proxy for this EDDR.
132. However, a dedicated, site-specific IBAT and GBIF screening will be generated exclusively for the coordinates of Areas 5 and 6 prior to the mobilization of biodiversity experts for the upcoming targeted field surveys. The results of this site-specific screening, along with the subsequent field findings, will be fully integrated into the Final EDDR. Based on the current regional proxy data, the following sensitive species were evaluated:
133. **Birds of Prey (Raptors):** Screening flagged several globally and regionally important raptors (e.g., *Aquila heliaca*, *Aquila nipalensis*, *Neophron percnopterus*, *Buteo rufinus*) in the wider Kakheti macro-landscape. However, the April 24 field verification confirmed the absolute absence of nesting sites or critical habitats for these species within the active agricultural zones.
134. These large raptors actively avoid the anthropogenic disturbance of the vineyards and strictly prefer the isolated natural ecosystems of the Iori floodplains located away from the construction corridor.
135. **Non-Raptor Birds:** The European Turtle Dove (*Streptopelia turtur*) was identified as a potential target. While it may occasionally utilize regional windbreaks, it was not observed within the direct RoW, and the linear, localized nature of the pipe-laying works minimizes any potential disruption to its broader habitat.
136. **Reptiles (Mediterranean Tortoise):** The Mediterranean tortoise (*Testudo graeca* - IUCN: VU, National Red List) is historically present in the broader region. However, no individuals or hibernation sites were observed within the targeted canal corridors during the April 24 survey. Due to intense anthropogenic transformation, the project area does not qualify as a Critical Habitat for this species; at most, it serves as a secondary, degraded transit corridor.
137. **Positive Impact:** Replacing the existing open concrete canals with a buried, closed pressurized pipeline system will yield a significant long-term environmental benefit. It will drastically reduce historical habitat fragmentation, allowing tortoises and other small ground-dwelling fauna to move safely and unhindered across the landscape.
138. **Insects:** Target insects like the dragonfly *Onychogomphus flexuosus* are strictly tied to the natural sandy/gravelly riverbed and flowing waters of the Iori River. They do not utilize the artificial, heavily silted, and seasonally dry agricultural canals, fully eliminating the risk of direct impacts on their breeding cycles.

3. Protected Areas and Key Biodiversity Areas (KBAs)

139. Based on the proxy IBAT screening and biological assessments conducted for the adjacent Package 2, the wider macro-landscape contains several ecologically sensitive zones. Emerald Network sites are located approximately 5 to 9 km away from the project corridor, and Important Bird and Biodiversity Areas (IBAs) are mostly situated over 20 km away, with the exception of the Iori region IBA, which is roughly 6 km distant. Due to these substantial buffer distances, no direct impacts on these broader KBAs and Emerald sites have occurred or are anticipated.
140. Administratively, the protected areas in this specific region operate under the unified management of the Mariamjvari State Nature Reserve Administration. It is important to note that while the Mariamjvari State Nature Reserve itself and the Gombori Protected Area are located at a considerable distance from the project footprint, the administration's jurisdiction also covers the highly sensitive riparian reserves located immediately to the south of the irrigation Areas.
141. **Korughi and Iori Managed Reserves:** The most critical and immediate ecological receptor for the subproject is the Korughi Managed Reserve, which is situated in direct geographic proximity (within a 1 km buffer) to the southern perimeter of the project area. This reserve is specifically designated to protect the unique tugai-type floodplain forests of the Iori River, diverse floral complexes, and vital migratory corridors.
142. Furthermore, the Iori Managed Reserve - which serves as a direct downstream ecological continuation of the Korughi Managed Reserve along the Iori River valley - must also be taken into consideration. Despite being located at a greater distance from the active construction zones, its hydrological and ecological connectivity to the upstream Korughi section makes it an important component of the broader environmental baseline.
143. Because the remaining untouched 8-9 km segment of the G-42 distributor strictly borders this highly sensitive Korughi Managed Reserve, it was a primary focus during the April 24, 2026 field audit. Comprehensive site inspections and direct interviews with the Mariamjvari State Nature Reserve Administration confirmed that absolutely no rehabilitation or construction activities have been executed in this vicinity.
144. Furthermore, no temporary facilities, equipment staging areas, or waste dumps were established near the protected area's boundaries. This sensitive territory remains entirely untouched and completely free from any direct or indirect project-related impacts.



Figure 15. The boundary of the Korughi Managed Reserve interfacing with the untouched, un-rehabilitated segment of the G-42 canal, confirming the absence of construction impacts (April 24, 2026).

145. This pristine status is firmly corroborated by the official spatial KMZ map provided by GA (detailed in Section A) and the coordinate-stamped photographic evidence capturing the un-rehabilitated canal interfacing with the reserve boundary (see Figure 15 above).

146. To secure an unimpeachable legal baseline, an official written request has been submitted to the Agency of Protected Areas (APA) to formally confirm the absence of any construction encroachment, with their official response pending.
147. Furthermore, following the generation of the site-specific IBAT report for Areas 5 and 6, certified biodiversity experts will re-examine this specific boundary zone prior to the Final EDDR submission, ensuring an airtight baseline evaluation.
148. (Note: The regulatory implications, potential risks, and strict ADB safeguard requirements for any future rehabilitation works planned in this sensitive boundary zone are discussed in detail in the subsequent section: FINDINGS, GAP ANALYSIS AND ASSOCIATED RISKS).

G. Cultural Resources

149. Gurjaani Municipality has been inhabited since ancient times, with the discovery of a Stone Age settlement. The territory of the municipality was densely populated in the Bronze Age, as well as in the Antique and Feudal Ages. According to literary and stock materials, there are no historical and cultural heritage sites in the territories of Areas 5 and 6.
150. While the broader Kakheti macro-region is renowned for its rich archaeological potential and physical monuments (such as fortresses, ancient settlements, and burial mounds/kurgans), comprehensive visual field inspections conducted for the identical neighboring sections (Areas 1-4) confirmed that such heavily cultivated agricultural perimeters generally lack preserved, visible architectural monuments or national-category cultural heritage sites. Therefore, the planned rehabilitation works will have no direct or indirect physical/visual impact on any established architectural monuments.
151. Although physical monuments are absent from the direct footprint, the region is internationally recognized for its intangible cultural heritage, primarily associated with ancient viticulture and winemaking traditions (e.g., Qvevri wine-making, traditional Rtveli harvesting).
152. Given that the command areas of Areas 5 and 6 are predominantly covered by active vineyards, the proposed irrigation rehabilitation project will have a direct positive impact, actively supporting and sustaining these vital living traditions by improving long-term agricultural water security.
153. Despite the absence of surface-level historical structures, the general region's long history of continuous human habitation implies a persistent baseline potential for undiscovered subsurface archaeological artifacts. Therefore, while no pre-construction archaeological excavations are currently warranted for the highly disturbed agricultural corridors of Areas 5 and 6, strict Chance Find Procedures must be integrated into the environmental management framework.
154. Specifically, the new contractor appointed to execute the rehabilitation works for the remaining 8-9 km segment will be strictly required to prepare and submit a Site-Specific Environmental Management Plan (SSEMP) prior to the commencement of any civil works. The Chance Find Procedure must be a mandatory, formally integrated component of this SSEMP to ensure that any accidental discoveries during trenching and earthworks are appropriately managed, isolated, and reported in full compliance with national legislation and ADB safeguards.
155. Importantly, as part of this EDD audit regarding the already completed rehabilitation segments within Areas 5 and 6, no instances of late or chance archaeological discoveries were reported, documented, or identified. The historical excavation and pipe-laying activities conducted by the contractor thus far have not encountered or impacted any physical cultural resources. This retrospective finding practically corroborates the low

archaeological sensitivity of the active agricultural corridors, although vigilance via standard Chance Find Procedures remains mandatory for the remaining unconstructed segments.

H. Summary of Baseline Conditions

156. In summary, the multi-stage environmental assessment conducted to date indicates that the baseline environmental conditions within Areas 5 and 6 do not present extraordinary or insurmountable ecological sensitivities. The project footprint is predominantly confined to heavily transformed, highly modified agricultural landscapes and existing infrastructure corridors.
157. No physical cultural heritage monuments, Critical Habitats (CH) for target species, or major localized pollution sources have been identified within the direct right-of-way. While highly sensitive environmental receptors exist in the broader vicinity - most notably the Korughi Managed Reserve bordering the remaining 8-9 km segment - unambiguous field evidence confirms these areas remain completely untouched by past rehabilitation works.
158. These conclusions indicate a low general environmental baseline risk. However, to ensure absolute compliance with ADB's SPS 2009, this baseline will be further solidified, quantified, and formally finalized through the planned site-specific field activities scheduled prior to the commencement of civil works.
159. These upcoming activities - including instrumental monitoring of ambient air and noise, targeted sediment sampling at Mkrali Ole, and site-specific biodiversity walkovers by certified experts - will provide the ultimate, legally binding baseline data for the contractor's SSEMP.

V. FINDINGS, GAP ANALYSIS AND ASSOCIATED RISKS

160. This section is developed based on a comprehensive review of available project documentation, reconnaissance field surveys conducted in December 2025 and April 2026, the spatial KMZ data provided by GA in May 2026, and stakeholder consultations.

161. At the time of this audit, the rehabilitation status of the project areas is as follows:

- Area 5: Rehabilitation works have been completed (as confirmed by the spatial data provided by GA);
- Area 6: Approximately 9 km of the canal has been rehabilitated, while the remaining 8-9 km segment near the protected area remains in its original, pre-project state.

162. Although the current contractor (LLC Smart Solution) is still executing minor localized works (e.g., hydrant installation) on the already rehabilitated network, no major civil works are actively progressing, and no heavy machinery is deployed. With the active irrigation season starting in June, a temporary suspension of works or full demobilization is expected. Consequently, this assessment adopts a dual-scenario approach to environmental risk analysis:

- Retrospective Assessment and work conservation Scenario: Evaluating the environmental compliance of the already executed works and assessing safety/environmental risks associated with the current partially completed state of the infrastructure (e.g., erosion, open excavations, or abandoned waste).
- Work Continuation Scenario (Gap Analysis): Identifying potential impacts and safeguard requirements (Gaps) that must be addressed once the rehabilitation of the remaining 8-9 km commences under ADB oversight.

A. Review of Environmental Documentation and Regulatory Compliance

1. National Regulatory Context - Status of Permits, Licenses and Agreements

163. At the stage of project initiation and during the primary rehabilitation phase of Areas 5 and 6, the activities were governed by the EAC of Georgia. Under the national legislation, irrigation rehabilitation projects that are confined to existing corridors and do not involve an increase in water abstraction or significant structural changes are not listed in Annex I (mandatory EIA) or Annex II (subject to Screening).

164. Consequently, the project was legally exempt from the requirement to obtain an Environmental Decision from NEA. From a national perspective, the works executed to date were compliant with the law, as no site-specific Environmental Impact Assessment (EIA) or a statutory EMP was required for the issuance of construction permits under the national budget funding.

165. However, as part of Area 6 (the remaining 8-9 km segment) remains to be rehabilitated under ADB funding, the specifics of the final design for these remaining works should be carefully reviewed. As long as it is confirmed that the rehabilitation activities remain strictly within the original irrigation system scheme and existing corridor, the project will retain its legal exemption, and there will be no need to initiate a formal screening procedure under national law.

166. Projects that are not subject to EAC requirements and do not require a screening/EIA procedure should be subject to the requirements of other normative documents. However, relying solely on these general regulations rather than a formally approved, site-specific EMP creates an automatic compliance gap when measured against the stringent requirements of the ADB SPS 2009. Below is the GAP analysis identified during the study. :

Waste Management Plan (WMP) agreement with MEPA:

167. As required by the Waste Management Code (2014), if an activity generates more than 200 tons of non-hazardous waste or any amount of hazardous waste per year, a waste management plan must be developed and agreed with MEPA (Article 14, paragraph 1). The company's waste management plan is updated every 3 years or in case of a change in the type or quantity of waste generated and significant changes in the processing process.
168. Findings: According to the information provided by GA in their official letter dated May 20, 2026, the company operates under a common, corporate-level waste management plan that regulates the management of all types of waste generated at any facility owned by the company (Article 14, paragraph 3). The letter officially confirms that this overarching plan was updated in 2024 and successfully agreed with MEPA for a 3-year period, remaining valid through the end of 2026. Therefore, at the corporate level, GA fully complies with national legislative requirements.
169. Gaps and Associated Risks: In the initial EDDR phase, a potential compliance gap was identified regarding the validity of the Waste Management Plan, as it was uncertain whether the agreement with MEPA remained current. However, following formal clarification provided by GA in their official letter dated May 20, 2026, this matter is now resolved.
170. GA operates under a common, corporate-level waste management plan that regulates all types of waste generated at any facility owned by the company (Article 14, paragraph 3). The provided official documentation confirms that this overarching plan was updated in 2024 and successfully agreed with MEPA for a 3-year period, remaining valid through the end of 2026. Therefore, at the corporate level, GA is in full compliance with national legislative requirements, and the previously identified potential gap is closed.

Agreements on waste disposal

171. According to the requirements of the Waste Management Code (2014) - "Inert waste that is suitable for backfilling operations or construction purposes may not be disposed of in a landfill if it is used for backfilling operations or construction purposes provided for in the project, in agreement with a state or municipal authority" (Article 21, paragraph 51). Hazardous waste should be disposed of only in a hazardous waste landfill, and non-hazardous waste should be disposed of in a non-hazardous waste landfill (Article 21, paragraphs 2 and 3).
172. Findings: Per GA's official correspondence dated May 20, 2026, the company holds a letter from the Gurjaani Municipality (letter No. 9242-g dated October 27, 2020), authorizing the disposal of construction debris and sediment in a designated area in Naniani village (an area locally known as the „dry ravine," located 500 m from the village edge) for the disposal of construction debris and sediment, to be used for backfilling and leveling operations.
173. While the documentary trail for the 2024-2026 period is incomplete, it is important to note that field audits, regular monitoring of the construction sites, and stakeholder consultations conducted throughout the project have not revealed any evidence of significant environmental impacts associated with waste management. There have been no reports of soil erosion, unauthorized dumping in sensitive ecological zones, or environmental degradation linked to the disposal of inert materials generated during the rehabilitation process.
174. Gap 1: Despite the absence of reported environmental incidents, a compliance gap exists. While the Gurjaani Municipality issued an agreement regarding the Naniani site in

2020, the date of issuance and the period of rehabilitation works (2024–2026) do not coincide, and there is no confirmed evidence that the waste generated during this specific period was actually transported to or managed at this site. The issue needs to be clarified at a later stage of the study.

175. It is critical to note that the authorization letter issued by Gurjaani Municipality (No. 9242-g, dated 27 October 2020) is factually and chronologically disconnected from the 2024–2026 rehabilitation works. This 2020 document does not legally cover or authorize the waste disposal generated during the current project (Areas 5 and 6) implementation period.
176. Gap 2: At this stage, there is no information on whether there are agreements on the disposal of other hazardous and non-hazardous waste. Acceptance and delivery acts with subcontractors who were responsible for hazardous waste management are not available. The issue is to be clarified at a later stage of the study.
177. To address these gaps, GA has officially engaged with the construction contractor, LLC Smart Solution, with a detailed request for documentation covering waste transportation, disposal manifests, and handover acts. The contractor was granted a 15-day period to provide this information; however, as of the time of this report, no response has been received. Consequently, the issue remains pending and will require further clarification during the final stages of the study.

Agreement on the organization of a construction camp:

178. Findings: During the rehabilitation, a camp was used on a privately owned territory. According to the information gathered during the audit, the construction contractor (LLC Smart Solution) has effectively finalized the major civil works and is currently in the process of full demobilization. Consequently, the operational necessity for this specific camp has ceased.
179. Gap: Territory have the status of agricultural land. According to the Law of Georgia "On Determination of the Purpose of Land and Sustainable Management of Agricultural Land" (2019), "The use of agricultural land for non-agricultural purposes without changing its purpose is not permitted" (Article 6, paragraph 3). The establishment of the camp without the formal change of land-use status constitutes a procedural non-compliance with national legislation.
180. Future Requirements and Recommendations: The current camp location is unsuitable for the planned rehabilitation of the remaining 8-9 km segment of the G-42 canal due to its significant distance from the new work sites and its restricted agricultural land status. Therefore, the following actions are mandatory:
- i. The current camp site must undergo full demobilization and site restoration to return the land to its original ecological and physical condition;
 - ii. For the rehabilitation of the remaining 8-9 km segment, the construction contractor must establish a new camp on state-owned, non-agricultural land located in close proximity to the construction corridor, while ensuring an adequate buffer zone from protected areas.
181. This arrangement must be explicitly reflected in the contractor's SSEMP and approved prior to the commencement of works.

Permit for clearing vegetation:

182. According to the information provided by GA (see the completed questionnaire - Annex 1), the construction contractor has previously carried out the work of recording (so-called

taxation) of trees to be cut (The material of the taxation results is available). According to national regulations, if the trees to be cut are within the canal alienation zone, GA has the right to cut them without additional agreement. It is worth noting that the area of rehabilitation works is not within the territories of the Georgian Forest Fund and accordingly there was no need for additional agreement with the LEPL "Forestry Agency".

183. This is currently being verified using the updated mapping data (Shape/KMZ files) provided by GA on May 20, 2026, to ensure that no clearing activities encroached upon the Korughi reserve buffer zones.

License for the extraction of inert materials:

184. The construction contractor – relied on existing quarries in the region and did not maintain independent infrastructure including crushing or concrete batching plant). Relevant information on subcontractor agreements has been requested from GA to confirm the legality of sourced materials.

Other Permits, Licenses, and Agreements:

185. Other types of permits and agreements (e.g. agreements with the Cultural Heritage Agency, agreements with state-owned companies operating public infrastructure (e.g. power lines), etc.) were not required. This is being finalized through ongoing interviews with GA to ensure that no auxiliary works occurred that required specific agreements.

2. ADB Safeguard Requirements and Procedural Gaps

186. With the integration of the project into the ADB-financed framework, safety requirements have become more stringent. According to the ADB SPS 2009, the project is classified as Category B in terms of environmental risks. This classification requires the preparation of an IEE and the implementation of a formal EMP to mitigate potential impacts. In addition, for components implemented prior to ADB involvement, ADB SPS (2009) requires an environmental audit and due diligence for existing facilities, in line with Safeguard Requirement 1 (Environment).
187. The audit reveals a procedural GAP: a large part of the left main canal of the Kvemo Samgori irrigation system is covered by an IEE, namely: an IEE has already been prepared for Package 1 of the main canal. IEE reports preparation is also planned for Package 2 and Package 3. However, a large part of the rehabilitation of Package 4 (Area 5 and 6) was carried out without the appropriate international standard safety instruments.
188. Although the rehabilitation works were technically compliant with Georgian legislation—as an existing network rehabilitation, it did not trigger the mandatory screening pathway under the Georgian EAC (2017, as amended June 2025) - this absence of a screening process constitutes a non-compliance with ADB SPS Category B requirements had the works been under ADB scope at the time. Furthermore, the absence of a site-specific EMP, structured environmental monitoring, and documented safeguard implementation at the initial stage constitutes a non-compliance with ADB requirements for Category B projects.
189. To address this identified gap, the Environmental Due Diligence Report (EDDR) has been prepared in accordance with ADB requirements as a retrospective assessment of existing facilities.

190. The EDDR evaluates past and ongoing activities against applicable national legislation, ADB SPS (2009) requirements, and relevant international good practice. The report uses the 2023-2026 environmental baseline established in the IEE of other packages, while addressing the lack of site-specific management plans through a proposed corrective action plan (CAP). The objective is to ensure that the remaining 8 km of rehabilitation in Area 6, as well as the operation and maintenance of Area 5, are fully aligned with ADB safeguard requirements and international good practices, regardless of their prior exempt status under national law.
191. In the event that rehabilitation works for the remaining 8–9 km of Area 6 resume under ADB oversight, the development and approval of a SSEMP will be mandatory before mobilization, following the EARF Appendix 6 outline. The CAP includes a conditional requirement that if the Area 6 remainder resumes under ADB scope, an SSEMP must be approved by the ADB PIU before mobilization.

Environmental Management Plan (EMP) Implementation:

192. ADB Requirement: A site-specific EMP (SSEMP) must be developed by the contractor and approved before the commencement of works to manage site-specific risks (e.g., proximity to Korughi Reserve).
193. Gap: No SSEMP was developed or implemented during the completed works in Area 5 or the ongoing works in Area 6. Consequently, there was no structured mechanism for environmental self-monitoring, reporting, or corrective action during the primary construction phase.
194. If the remaining 8-9 km of Area 6 resumes under ADB oversight, the development of an SSEMP by the Construction Contractor and its approval by the ADB PIU - following the EARF Appendix 6 outline - is mandatory before mobilization.

Institutional Capacity and Monitoring:

195. ADB Requirement: Regular environmental monitoring reports (SAEMR) must be prepared and disclosed to ensure transparency and compliance.
196. Gap: During the nationally funded phase, no systematic environmental monitorings were conducted by an independent consultant or the PIU. Environmental supervision was limited to general technical oversight, lacking specialized environmental audit trail.

Public Consultation and Disclosure:

197. ADB Requirement: Meaningful consultation and disclosure of safeguard documents are mandatory for Category B projects.
198. Gap: Due to the initial national funding structure, no formal public consultations aligned with ADB standards were conducted or documented (GA reported that meetings with stakeholders were held in various villages and settlements during the pre-project phase of Area 5 and Area 6. However, GA did not have direct access to these documents). Detailed analysis of informal stakeholder engagement and communication effectiveness is provided in Section F.
199. Disclosure and Corrective Action: To rectify this and align with ADB SPS (2009) and the project PAM, a formal disclosure regime will be implemented. The Executive Summary and the Corrective Action Plan (CAP) will be translated into Georgian to ensure they are accessible and understandable to affected people. Prior to final submission, these translated documents will be publicly posted at the GA local service centers. Furthermore,

the Final EDDR (including the CAP) will be posted on the ADB website in accordance with the ADB disclosure window.

B. Waste Management and Hazardous Materials

1. Audit Findings and Current Status

200. Based on the results of the audits conducted in December 2025 and April 2026, several hotspots of waste accumulation were identified within the project area. However, in terms of quantity, the volume of generated and abandoned waste is not large-scale. The identified waste is primarily associated with the previous rehabilitation phase works, and its management requires a systematic approach in accordance with Georgian legislation and ADB standards. Below is a detailed description of the main hotspots and types of waste accumulation:

a) *Mixed waste near the new GA Service Center area*

201. During the April 2026 environmental field inspection, small volumes of municipal and construction-type mixed waste were observed in this area. It should be noted that the majority of this waste was contained within the fenced perimeter of the service center. Therefore, despite the site's proximity to a public road, the risks of external environmental impacts - such as windblown scattering to adjacent properties - were considered low.

202. Based on visual assessment, the following waste types and approximate quantities were identified on-site:

- Concrete and asphalt debris (Waste Code: 17 01 01 / 17 03 02): Approximately 1.0 – 1,5 m³.
- Wood debris and cut branches (Waste Code: 17 02 01 / 20 02 01): Approximately 0.5 – 1 m³.
- Mixed packaging waste (empty cement bags, plastic bottles, foam, and plastic wrapping) (Waste Code: 15 01 06): Scattered, small quantities (approx. 0.2 m³).
- Scrap metal and wire mesh fragments (Waste Code: 17 04 05): Minor quantities.

203. The site requires routine cleanup and proper waste segregation. In line with the waste management hierarchy principle, certain segregated waste streams (e.g., wood debris or scrap metal) may be reused or recycled. However, it is mandatory to maintain formal documentary evidence (such as handover acts or recycling receipts) confirming their proper transfer and end-use. Any remaining non-recyclable waste must be disposed of at an appropriately permitted municipal and/or inert waste landfill.

204. Relevant photos are provided below:





Figure 16. Waste in the new GA Service Center area

b) Mixed waste at the construction camp

205. Both the December 2025 and the recent April 2026 environmental field inspections confirmed the presence of scattered waste and abandoned materials at the former construction camp area. The site remains unfenced and easily accessible. Based on visual assessment and photographic evidence from April 2026, the waste streams at this location are more diverse and include both non-hazardous and hazardous materials:
206. Reusable Construction Materials (Wood and Plastics): A significant portion of the scattered items consists of leftover construction materials, primarily wooden boards, formwork, and some plastic/HDPE pipes (estimated quantity: approx. 2–3 m³). In accordance with the waste management hierarchy, these materials (particularly the wood) have a high potential for reuse.
207. Contaminated Packaging and Metal Containers (15 01 10):* Several metal drums and containers (estimated quantity: 2-3 drums/tanks, approx. 0.3 m³), visibly contaminated with petroleum products (oil/fuel residues), were observed on-site. These must be classified as hazardous waste and handed over to a licensed contractor.
208. Oil-Contaminated Soil (17 05 03):* Visual inspection identified small, localized spills of oil and fuel on the ground surface. The impacted topsoil must be excavated and provisionally managed as hazardous waste. Based on visual estimates, the volume of this contaminated soil is minor (approx. 1–1.5 m³). (Note: The necessity for laboratory testing to confirm the extent of soil contamination, along with specific remediation measures, is detailed in the "Soil, Water, and Air Quality" section of this report).
209. ACM (17 06 05):* Notably, fragments of old asbestos-containing pipes (estimated quantity: approx. 2–3 broken pieces / 5–7 linear meters) were found abandoned in the camp's vicinity. As emphasized in the general ACM subsection above, these pose significant environmental and health risks. They must be strictly managed, inventoried, and disposed of according to the national hazardous waste regulations and the project's Asbestos Management Plan (AMP).
210. The generated waste must be strictly segregated. Reusable materials should be formally documented and transferred for secondary use, while all hazardous waste streams (ACM, contaminated soil, and oily rags/containers) must be safely collected, temporarily stored with secondary containment, and disposed of exclusively by state-licensed hazardous waste management contractors.
211. Overall, it should be emphasized that while multiple waste streams are present at the site, the total quantitative volume of generated and abandoned waste remains quite small.

212. Relevant photos are provided below:



Figure 17. Various types of waste in the area of the camp, April 2026

c) **Concrete waste at various old and ongoing construction sites**

213. During the environmental audits conducted in December 2025 and April 2026, scattered inert waste (17 01 01)) was observed adjacent to various irrigation system components across Areas 5 and 6. As evidenced by the photographic documentation from both visits, this waste primarily consists of broken concrete rings/pipes and dismantled concrete slabs.

214. Based on the visual assessments from the December and April inspections, the total cumulative volume of currently generated and abandoned concrete waste across the various locations is relatively small, estimated at approximately 10 m³. At this stage, corrective actions are solely focused on the proper management, consolidation, and disposal (or documented reuse) of this specific ~10 m³ of existing waste.

215. It must be noted that upon the resumption of rehabilitation works for the remaining sections of the G-42 canal, additional concrete waste will be generated from the demolition of the existing, dilapidated structures. Identifying the exact volume of this future waste is impossible at the current audit stage.

216. During the planning phase of the subsequent rehabilitation works, the updated Site-Specific Waste Management Plan (or SSEMP) must separately and thoroughly detail these anticipated future waste streams. The plan must include volume estimations and strictly define management measures in accordance with the waste management hierarchy. Prioritized measures should include the beneficial on-site reuse of crushed concrete (e.g., for trench backfilling or as aggregate for road base construction). Any excess material must be routed to a municipality-approved inert waste landfill.

211. Relevant photos are provided below:



Figure 18. Concrete waste in various areas

d) **Asbestos-Containing Materials (ACM) waste**

217. The April 2026 environmental audit specifically prioritized the identification and quantification of ACM across the project areas. Suspected ACM, specifically old asbestos-cement pipes, was identified at several discrete, isolated locations. Based on the photographic evidence and GPS data collected during the site visit, the specific locations and estimated quantities are detailed below:

- **Location 1 (Construction Camp):** Coordinates 38T 561430 4608239. Approximately 2–3 broken pieces (estimated 5-7 linear meters).
- **Location 2 (Agricultural Field Edges/Shrubs):** Coordinates 38T 559613 4605086 and 38T 559549 4604864. A few scattered pipe fragments (estimated 1-2 linear meters).
- **Location 3 (Adjacent to Vineyards):** Coordinates 38T 558295 4604845. One mostly intact pipe section (estimated 2-3 linear meters).

- **Location 4:** Coordinates 38T 556452 4604859. One mostly intact pipe section (estimated 3-4 linear meters).

218. Cumulatively, the estimated total volume of these materials remains very small, approximately 0.5 m³. According to Article 4 and Annex I of the Georgian Waste Management Code (2015, as amended 2025), ACM is classified as hazardous waste (Waste Code: 17 06 05*). Its management is strictly subject to Government Resolutions No. 145 and No. 421. Disposing of ACM waste in an ordinary, inert landfill constitutes a serious regulatory breach. Consequently, full compliance with the Asbestos Management Plan (AMP) requirements outlined in the EARF (Appendix 3) must be ensured. To address this, the following protocol applies:

- **Presumptive Identification and Justification for Waiving Destructive Sampling:** Visual condition assessment confirms that the suspected ACM pipes at the identified locations are intact and non-friable. Conducting destructive sampling on these intact materials to obtain laboratory specimens presents unnecessary health and safety risks, as breaking the pipes could release toxic asbestos fibers into the air. Given the very small total quantity (~0.5 m³) and the lack of structural damage, a "presumptive identification" approach is adopted. This is consistent with international best practices and Georgian standards, which prioritize safe handling and isolation over risky sampling procedures when the presence of ACM is assumed based on visual inspection.
- Furthermore, identifying an accredited laboratory in Georgia capable of performing PLM/TEM analysis within the current project timeline has proven to be highly challenging. Therefore, no physical laboratory sampling will be conducted. Instead, applying the precautionary principle, these materials will be treated directly as hazardous asbestos-containing waste.
- The detailed management measures - including strict protocols for safe handling, wet-stripping (if necessary), packaging, labeling, and controlled transportation to a licensed disposal facility - are provided separately in Annex 13 (Asbestos Management Plan and Handling Protocol) of this report.

219. A retrospective verification of the disposal routing for any ACM already removed during previous works will be conducted to ensure no illegal dumping occurred. This verification process will be explicitly reflected in CAP.

220. Relevant photos are provided below:

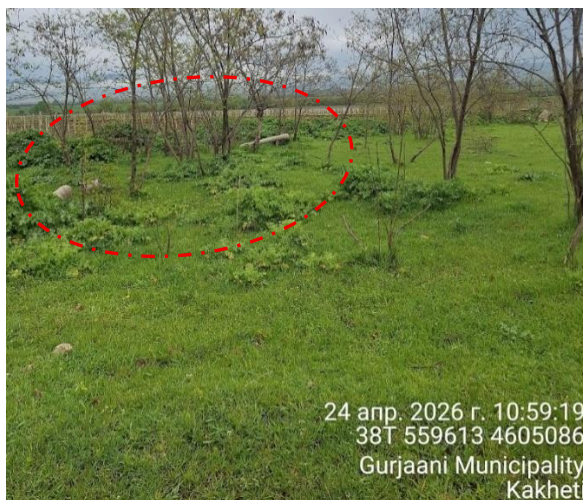




Figure 19. ACM waste in the project area, April 2026

e) Other types of hazardous waste

221. As noted in the sections above, small quantities of other hazardous wastes - specifically, materials and empty containers contaminated with petroleum products (oil/fuel residues) - were observed exclusively at the former construction camp. Additionally, localized patches of oil-contaminated soil were identified at the camp, which require further quantitative assessment to determine the exact volume. Aside from these specific findings at the former camp area, no other types of hazardous waste were identified at any other project locations during the environmental audits.

f) Summary table of waste identified during the audit

222. A summary table of waste is provided below.

Table 3. Summary table of waste identified during the audit

Waste Type / Name	Waste Code	Location	Coordinates	Condition of Waste	Estimated Quantity	Key Management Measures
Concrete and asphalt debris	17 01 01 / 17 03 02	Near the new GA Service Center area	38T 561666 4608652	Scattered	1.0 -1.5 m ³	* Routine cleanup and segregation. * Disposal at a municipal/inert waste landfill.
Wood debris and cut branches	17 02 01 / 20 02 01	Near the new GA Service Center area	38T 561666 4608652	Scattered	0.5- 1 m ³	* Reuse/recycling. * Maintain documentary evidence (e.g., handover act).
Mixed packaging waste (empty cement bags, plastic, foam)	15 01 06	Near the new GA Service Center area	38T 561666 4608652	Scattered, small quantities	≈0.2 m ³	* Collection and disposal at an appropriate landfill.
Scrap metal and wire mesh fragments	17 04 05	Near the new GA Service Center area	38T 561666 4608652	Scattered	Minor quantities	* Segregation and recycling with appropriate documentation.
Reusable construction materials	-	Construction camp	38T 561493 4608244	Scattered leftover materials and formwork	≈2-3 m ³	* Reuse according to the waste management hierarchy.

Waste Type / Name	Waste Code	Location	Coordinates	Condition of Waste	Estimated Quantity	Key Management Measures
(wood and plastics)						* Documenting and transferring for secondary use.
Contaminated packaging and metal containers	15 01 10*	Construction camp	38T 561493 4608244	Visibly contaminated with petroleum products	2-3 drums/tanks (≈0.3 m³)	* Classification as hazardous waste. * Temporary storage with secondary containment. * Handover to a licensed contractor.
Oil-contaminated soil	17 05 03*	Construction camp	38T 561493 4608244	Localized spills on the ground	≈1–1.5 m³ (<i>Quantitative assessment to be finalized by further laboratory testing</i>)	* Excavation of topsoil and provisional management as hazardous waste. * Handover to a licensed contractor.
Inert concrete waste (broken rings, pipes, slabs)	17 01 01	Various old and ongoing construction sites (Areas 5 and 6)	Scattered across various locations	Scattered, broken	≈10 m³ (cumulatively)	* Collection, consolidation, and disposal at a landfill. * Documented on-site reuse (e.g., for trench backfilling).
Anticipated concrete waste (demolition of G-42 canal)	17 01 01	Remaining sections of the G-42 canal	N/A	Old, dilapidated structures	<i>Exact volume cannot be determined; to be defined during the planning phase of subsequent rehabilitation</i>	* Detailed inclusion in the updated SSEMP. * Priority: Crushing and on-site beneficial reuse (e.g., as road base).
Asbestos-Containing Materials (ACM)	17 06 05*	Location 1 (Construction Camp)	38T 561430 4608239	Mostly intact (non-friable), broken fragments	2-3 fragments (5–7 linear meters)	* Presumptive identification without destructive sampling. * Safe handling (wet method), packaging, labeling. * Disposal at a licensed facility. * Retrospective verification included in the CAP. (The Annex provides the ACM management protocol) Total ≈0.5 m³
Asbestos-Containing Materials (ACM)	17 06 05*	Location 2 (Agricultural Field Edges/Shrubs)	38T 559613 4605086 and 38T 559549 4604864	Mostly intact (non-friable)	Scattered fragments (1–2 linear meters)	
Asbestos-Containing Materials (ACM)	17 06 05*	Location 3 (Adjacent to Vineyards)	38T 558295 4604845	One mostly intact section (non-friable)	2–3 linear meters	
Asbestos-Containing Materials (ACM)	17 06 05*	Location 4 (Naniani Vicinity)	38T 556452 4604859	One mostly intact section (non-friable)	3–4 linear meters	

2. Future Impacts and Mitigation

223. During the forthcoming rehabilitation of the remaining 8-9 km segment of the G-42 distributor, various waste streams will be generated. In quantitative terms, the largest volume of waste will consist of inert concrete debris (Code 17 01 01) resulting from the demolition and dismantling of the existing, degraded open canals.

224. Additionally, as evidenced by the site audits, there remains a realistic probability of encountering further hazardous Asbestos-Containing Materials (ACM) (Code 17 06 05*) from legacy underground pipes, alongside standard construction and domestic waste.

225. Negligence in managing these waste streams poses exceptionally high risks due to the project's immediate proximity to the Korughi Managed Reserve and the Iori River basin. Any illegal dumping, wind-blown scattering of lightweight packaging, or improper containment of sanitary wastewater could directly threaten the reserve's sensitive riparian ecosystems and wildlife.
226. To systematically mitigate these risks, all waste management procedures must be fully integrated into the Contractor's SSEMP. Most importantly, before any civil works resume, the Contractor is strictly required to prepare a Site-Specific WMP, subject to formal review and approval by the PIU. This plan must incorporate the following mandatory elements (which will also be codified in the Corrective Action Plan - CAP):
- The WMP must explicitly detail the step-by-step procedures for the safe handling (wet methods), packaging, temporary isolation, and final legal disposal of any discovered asbestos waste exclusively by licensed hazardous waste subcontractors.
 - The plan must outline strategies to minimize landfill disposal, specifically prioritizing the crushing and beneficial on-site reuse of dismantled concrete waste (e.g., for trench backfilling or access road improvement), subject to written approval from the Supervising Engineer.
 - Implementation of strict protocols for managing machinery maintenance waste (oils, lubricants) and the provision of portable, regularly serviced sanitary facilities to prevent any soil or water contamination near the protected areas.
 - The Contractor must legally designate a named Waste Manager on-site responsible for enforcing the WMP, segregating waste streams, and maintaining all transport and disposal documentation (manifests). This function may be combined with an Environmental and Social Safety Officer.

C. Biodiversity and Protected Areas

1. Audit Findings and Current Status

227. The findings of this document indicate that Areas 5 and 6 do not contain highly biodiversity-sensitive zones outside the formally designated areas, and the likelihood of high-value species (protected by the Georgian Red List and international conventions) entering the active rehabilitation corridor is low.
228. According to the field study, no areas of significant habitat modification or excessive tree cutting were observed. The only exceptions were the former construction camp and localized spots where mixed waste was accumulated, which posed minor, localized risks to regional fauna.
229. Regarding past construction practices, GA reported that the previous contractor had conducted a pre-construction inventory of trees. This proactive approach aligns with national requirements and minimized the risk of excessive vegetation damage. Additionally, in exceptional cases, works in the vicinity of trees were carried out under continuous supervision to prevent soil compaction at the root zone, avoid heavy material storage, and regulate equipment movement.
230. Regarding the potential impact on the Korughi Managed Reserve, preliminary consultations with the Reserve administration confirmed the following:
- i. No construction works were carried out within the boundaries of the Korughi Managed Reserve.
 - ii. No waste was deposited, nor was equipment moved within the nature reserve zone during the previous rehabilitation process.

- iii. No damage to plants or animals was observed within the nature reserve boundaries.
 - iv. No invasive species were introduced; the administration considers this risk very low due to the dense floodplain forests populating the area.
 - v. As there are no tourist and recreational areas in this specific part of the reserve, the rehabilitation works did not impact any tourist activities.
 - vi. The administration expressed no other objections regarding the previous contractor's activities.
231. From an environmental and safeguards perspective, it is highly positive that no construction works have been carried out near or within the protected area at this stage. Integrating the upcoming, remaining works under the strict regulations of the ADB's SPS will ensure that this high environmental standard is maintained.
232. While the preliminary feedback from the administration is positive, these findings are currently based on interviews and initial site observations. To ensure full compliance and scientific accuracy, a formal official response from the APA is currently pending. Furthermore, an IBAT report will be generated for the project area. Based on the IBAT findings, a dedicated team of biologists will conduct a final, comprehensive field verification to validate these facts before the submission of the Final EDDR.

2. Future Impacts and Mitigation

233. Upon the resumption of rehabilitation activities, particularly in sections adjacent to or approaching the Korughi Reserve, potential environmental impacts must be carefully managed. Anticipated future risks include localized noise and vibration, dust generation, potential disturbance to local fauna, and risks of accidental spills or unauthorized waste dumping.
234. To effectively mitigate these risks, comprehensive management measures must be strictly detailed in the updated Site-Specific Environmental Management Plan (SSEMP). This SSEMP must be reviewed and officially approved by the Project Implementation Unit (PIU) prior to the commencement of any new works.
235. Furthermore, continuous and rigorous environmental monitoring will be mandated specifically for works conducted in the immediate vicinity of the protected areas to guarantee zero physical encroachment and minimal disturbance to the local ecosystem.
236. The mitigation strategy for biodiversity and habitat protection is multifaceted. High-level strategic measures—such as the mandatory 1,000-2,000m buffer zone from the Korughi Reserve, seasonal vegetation clearance prohibitions (March 1–June 30), and integrated GRM channels with the Protected Areas Administration—are presented in this section.
237. Detailed technical protocols for site-level implementation, including procedures for Red-Listed species, tree protection, trench safety (e.g., escape ramps for fauna), and invasive species control, are provided in Annex 12.
238. The Contractor is strictly required to incorporate all these measures into the SSEMP, which shall be subject to PIU approval prior to the mobilization of equipment.

D. Natural Disaster and Geodynamic Processes

1. Audit Findings and Current Status

239. The environmental field inspections conducted in December 2025 and April 2026, supported by local community consultations and interviews with the Korughi Managed

Reserve administration, have not identified any significant risks related to natural disasters or active geodynamic processes within the rehabilitated and ongoing work segments of Areas 5 and 6.

240. The project footprint does not exhibit signs of large-scale erosional or gravitational instability. The current irrigation infrastructure, while partially dilapidated in the untouched 8-9 km G-42 segment, remains structurally stable within its existing corridor.

241. *Note: It should be acknowledged that a physical site inspection of the "Naniani disposal site" (mentioned in GA documentation as a historical waste disposal location) could not be conducted during the preparation of this Report. This site will be a focal point for future verification to ensure no secondary risks from historical dumping are present.*

2. Future Risks and Mitigation

242. As the project focuses strictly on the rehabilitation and modernization of an established irrigation network rather than introducing entirely new infrastructural corridors, it does not involve large-scale, deep earthworks or significant alterations to local topography. Consequently, the risks of triggering geodynamic processes during the rehabilitation of the remaining 8-9 km segment are assessed as low.

243. However, particular attention will be dedicated to the southern periphery of the project corridor, where the topography becomes more complex and intersected by ravines as it approaches the Korughi Managed Reserve boundary. To ensure the long-term stability of these sensitive segments, the following mitigation protocols must be implemented by the Construction Contractor:

- The Contractor shall establish continuous control over adjacent slopes to detect and respond to erosion or gravitational processes. Regular visual inspections and baseline monitoring of slopes and embankments flanking the excavation trenches are mandatory to ensure the early detection of localized instability triggered by trenching.
- Temporary or permanent stockpiling of soil in ravines crossing the canal alignment is strictly prohibited, as this could restrict the water-carrying cross-section and potentially trigger localized flooding or erosion during heavy rainfall.
- During trenching and pipe-laying, temporary drainage channels or silt fences shall be deployed where necessary to prevent the washing away of loose soil and erosion by rainwater runoff, particularly in areas with higher topographical relief near the protected area boundaries.

244. These mitigation measures will be integrated into the SSEMP to guarantee that future rehabilitation works maintain the ecological and geological integrity of the project area

E. Soil, Water, and Air Quality

1. Audit Findings and Current Status:

245. Based on the review of available documentation and field reconnaissance, the rehabilitation works for Areas 5 and 6 were carried out primarily within existing canal corridors. Consequently, no massive, large-scale soil degradation or contamination was detected along the pipeline routes.

246. However, a critical compliance issue was identified at the former construction camp. Specifically, the fertile topsoil layer was not stripped and stored prior to the placement of materials and infrastructure (see Figure below). This practice constitutes a direct violation of the Law of Georgia 'On Soil Protection' (1994, Article 4b), which prohibits non-

agricultural activities without the prior removal of the fertile soil layer. Furthermore, this contradicts ADB SPS (2009) principles regarding the minimization of adverse environmental impacts. The presence of mixed construction waste directly on top of this unstripped soil increases the localized risk of contamination (e.g., from heavy metals or localized petroleum drips). Immediate corrective actions, including site cleanup and soil quality verification, will be mandated through the CAP.

247. Regarding water resources, there are no large water bodies within the active footprint. However, the small seasonal river Mkrali Ole (a tributary of the Lakbe River) flows approximately 50-70 meters from the old construction camp. While Findings do not confirm any illegal discharge of sanitary or agricultural wastewater into this river, the proximity of the scattered waste poses a risk of wind-blown or runoff pollution.
248. Similarly, while the Iori River flows south of Area 6 within the Korughi Managed Reserve, consultations with the reserve administration confirm that the likelihood of historical impact on this water body was negligible.



December, 2025



April, 2026

Figure 20. camp site, where various materials are stored without removing the topsoil

249. **Recent observations indicate that the current contractor (LLC Smart Solution) is executing only minimal, localized works and is expected to complete their scope and vacate the territory before the finalization of this EDDR process (likely suspending all activities completely during the upcoming irrigation season). Given this imminent departure, the significant physical distance of this old camp from the remaining 8-9 km segment, and the unresolved land-status and topsoil compliance issues, the most effective corrective action is the complete demobilization and closure of this camp in the near future. The closure process must be formally executed according to standard procedures (detailed either in a standalone Demobilization Plan or integrated into the future SSEMP) and must explicitly include the scraping, removal, and legal disposal of any contaminated topsoil layers. For the forthcoming rehabilitation of the remaining 8-9 km segment, a completely new construction camp must be established in strict compliance with all environmental, legal, and topsoil management requirements.**
250. Prior to the commencement of civil works for the remaining 8-9 km segment, the new Contractor must submit detailed camp location proposals to the PIU for formal approval. To systematically prevent the legal and environmental compliance issues observed during the previous phase, the selection of the new camp must strictly adhere to the following mandatory criteria (which will be reflected in the SSEMP):
- Absolute priority must be given to state-owned, non-agricultural brownfield sites. The use of private property and agricultural land categories must be strictly avoided to prevent complex land-use authorization and compensation issues.
 - The facility must be located at a minimum distance of 1,000 meters (with 2,000 meters highly recommended) from the Korughi Managed Reserve to ensure zero

disturbance to protected fauna. Additionally, an absolute minimum buffer of 500 meters (ideally 1,000 meters) must be maintained from any residential zones.

- Locations must be on flat terrain with minimal natural vegetation and no significant fertile topsoil cover. The use of the State Forest Fund or ecologically sensitive lands is strictly prohibited.
- The site must be strategically selected to minimize the use of public rural roads through villages, thereby reducing traffic safety risks for local residents.

2. Anticipated Future Impacts and Mitigation

251. For the remaining 8-9 km of the G-42 canal, the anticipated impacts on soil, water, and air quality are primarily associated with deep trenching, heavy machinery movement on dirt roads, and the operation of temporary staging areas. While this segment is situated far from residential villages, its proximity to the Korughi Managed Reserve requires stringent environmental controls. To mitigate these risks, the Contractor's Site-Specific Environmental Management Plan (SSEMP) must strictly incorporate the following mandatory parameters:

- **Topsoil Management (Strict Compliance):** For any new staging areas or temporary facilities, topsoil must be systematically stripped, segregated, and stored in accordance with Government Resolution No. 424. Trenches must be backfilled progressively.
- **Protection of Korughi Reserve (Alien Species Ban):** The importation of topsoil or fill material from regions outside the direct project footprint is strictly prohibited to eliminate the risk of introducing invasive plant species into the adjacent protected area.
- **Water and Spill Protection:** Any fuel storage or refueling stations must be located at least 100 meters away from water bodies. All equipment running on fuel must be placed within secondary containment (bundling) with a capacity of at least 110% of the primary tank volume.
- **Air Quality and Dust Control:** Construction camps and batching plants (if any) must maintain a minimum buffer distance of 1,000 meters from the boundaries of the Korughi Managed Reserve. All trucks transporting loose excavated materials must be tightly covered with tarpaulins.
- **Noise and Lighting:** Heavy machinery operation is prohibited during nighttime hours. Nighttime security lighting at temporary camps must be angled strictly downward.

3. Environmental Baseline and Diagnostic Sampling Plan

a) Justification and Methodological Adjustments

252. To address the compliance gaps identified at the former construction camp (specifically the lack of topsoil stripping and the presence of localized waste/petroleum drips) and to establish a robust environmental baseline for the remaining 8-9 km segment, a targeted instrumental monitoring and sampling program will be executed prior to the commencement of civil works.

253. Based on the findings and local logistical constraints, the following methodological adjustments have been made to the sampling scope:

- **Soil Parameters:** A market survey of accredited laboratories in Georgia confirmed that PAH-16 analysis is currently unavailable. Therefore, the soil investigation will robustly focus on Total Petroleum Hydrocarbons (TPH C10–C40) and Heavy Metals

(Pb, Zn, Cu), which are the most reliable indicators for the specific contamination profile expected at a machinery camp.

- **Mkrali Ole Stream:** As this is an ephemeral stream that remains dry for most of the year, standard surface water sampling may not be feasible. Therefore, the methodology will prioritize **sediment sampling** upstream and downstream of the camp, as sediments act as a more reliable long-term sink for historical contaminants. Water samples will be collected only if sufficient flow is present during the fieldwork.
- **Iori River Baseline:** Dedicated sampling for the Iori River is already being conducted in parallel under the IEE for Areas 1-4. Water samples have been collected from three locations (including upstream of Area 5/6) and are currently being analyzed for a comprehensive suite of parameters (Temperature, EC, TSS, BOD, Nitrates, Phosphates, Chlorides, Heavy Metals [Pb, Zn, Cu], TP, and TPH). These results will be integrated into this EDDR once available.

b) Planned Field Investigation and Sampling Matrix

254. The diagnostic sampling to be conducted for this EDDR is detailed in the table below. Results will be analyzed by a certified laboratory against Georgian environmental standards and will feed directly into the CAP.

Table 4. EDDR Environmental Sampling and Instrumental Monitoring Plan

Environmental Media	Sampling Locations	Parameters to be Analyzed	Rationale / Objective
1. Ambient Air & Noise (Instrumental)	3 Points: 1. Old Camp Site 2. Central section of the remaining 8-9 km area 3. Boundary of Korughi Managed Reserve	PM10, PM2.5, NO2, SO2, CO, Noise (dB), Vibration	To establish the current baseline before works resume on the remaining segment and confirm the absence of ongoing nuisance.
2. Soil Quality (Laboratory)	4 Points (Composite Samples): 1. Within the Old Camp footprint (focus on stained areas) 2. Immediately adjacent to the camp 3. Middle of the remaining 8-9 km area 4. Adjacent to the Korughi Reserve	Total Petroleum Hydrocarbons (TPH C10–C40), Heavy Metals (Pb, Zn, Cu)	To diagnose potential historical contamination at the non-compliant camp and establish agricultural baselines for future excavation zones.
3. Sediment & Surface Water (Laboratory)	2 Points (Mkrali Ole Stream): 1. Upstream of the old camp 2. Downstream of the old camp	Heavy Metals (Pb, Zn, Cu), TPH C10-C40. (If water is present: + TSS, COD)	To verify if historical runoff or wind-blown waste from the camp has impacted the localized drainage channel.

c) Future Demobilization and CAP Requirements

255. It is important to emphasize that the soil sampling conducted under this EDDR serves as an initial diagnostic investigation to confirm the presence or absence of contamination.

256. As noted, the current contractor is expected to vacate the territory shortly. The formal closure and demobilization of this old camp will be a mandatory line item in the CAP. During this closure process, the Project Implementation Unit (GA) will be strictly required

to conduct further Delineation Soil Sampling (a minimum of 3 additional targeted points) to precisely define the boundaries, depth, and volume of the contaminated topsoil layer. This delineated contaminated layer must then be completely scraped, removed, and legally disposed of at an authorized facility prior to site reinstatement.

F. Disturbance or damage of cultural sites, Chance finds

1. Audit Findings and Current Status

257. During the environmental audits of the already rehabilitated sections in Areas 5 and 6, no instances of disturbance, damage, or impact on known cultural heritage sites were identified. Furthermore, no archaeological artifacts or "chance finds" were reported or documented by the construction contractor during the initial phases of excavation and pipe-laying activities.

2. Future Management and Chance Find Protocol

258. While the project corridor primarily traverses highly modified agricultural landscapes with low archaeological sensitivity, the risk of accidental discovery remains during future deep excavation works in the remaining 8-9 km segment. To mitigate this, the following mandatory protocol will be enforced:

259. A formal "Chance Find Procedure" is provided in the Annex 14 of this report. This protocol must be fully integrated into the Contractor's SSEMP.

260. In the event of any accidental discovery of potential archaeological significance during construction, all physical activities in the immediate vicinity must cease immediately. The site shall be secured, and the Contractor must notify the relevant national cultural heritage authorities and the project PIU. Works shall only resume following an official assessment and written clearance by the authorized cultural heritage experts.

G. Visual-Landscape Impacts

1. Audit Findings and Current Status

261. During the environmental audit, visual impacts from the recent construction activities were assessed at two primary locations. The newly constructed GA Service Center, situated adjacent to the main regional highway, is highly visible to the public. While the building is properly fenced and its modern infrastructure introduces a positive visual elements to the landscape.

262. Furthermore, it is a highly positive development that the yard of the new building has been landscaped with newly planted trees and vegetation (see figures below). Given its immediate proximity to the public road, this greening effort will generate a significant, long-term positive visual and landscape effect. While these aspects are commendable, the presence of scattered construction waste within its perimeter currently creates a temporarily unfavorable visual and sanitary condition.



Figure 21. Planting and landscaping works at the new GA building

263. Similarly, the old construction camp presents an unfavorable visual state due to abandoned materials and waste. Although the camp is located deeper within the agricultural zone and is largely hidden from central public roads, it remains completely unfenced. Therefore, immediate sanitary-ecological cleanup and proper site management are required at both the service center and the old camp to restore the visual and ecological baseline of these areas.

2. Future Impacts and Mitigation Measures

264. The anticipated visual-landscape risks for the forthcoming rehabilitation of the remaining 8-9 km segment are considered extremely low. This territory is situated far from residential buildings and public transport arteries, meaning the planned pipe-laying activities will be noticeable almost exclusively to local shepherds utilizing the adjacent pastures.

265. On the contrary, the project will generate a permanent positive visual impact: replacing the heavily degraded, open concrete canals with a buried pressurized pipe system will eliminate visual clutter and restore the natural continuity of the agricultural landscape.

266. Despite the low risk of negative visual impacts during the construction phase, standard mitigation protocols must be implemented. Rather than an exhaustive list, the core high-level measures include: Siting temporary infrastructure away from settlements and the Korughi Managed Reserve, alongside mandatory fencing of construction camp; Minimizing the construction footprint and adhering strictly to designated machinery routes; Ensuring timely backfilling of trenches, strict waste management, and controlling night lighting; Conducting full site reinstatement immediately upon completion of works.

267. The detailed, site-specific technical procedures for executing these landscape and visual protections will be comprehensively codified within the Contractor's SSEMP.

H. Occupational and Community Health and Safety

1. Audit Findings and Current Status

268. Findings indicate that the geology in the project area is stable and no safety risks arising from geological processes are apparent at this stage. It is important to emphasize that there are no residential settlements or public facilities located directly within the active project footprint.

269. During the environmental audits, no critical adverse situations or significant hazards were observed within the bounds of the existing construction sites. Furthermore, consultations

and interviews conducted with the local population confirm that no negative incidents, accidents, or community health and safety grievances occurred during the execution of the previous works.

270. However, certain administrative and physical deficiencies were identified from the previous construction phase. Administratively, during the survey, it was not confirmed that the construction contractor had a dedicated staff (specialist) responsible for H&S issues, and a Health and Safety Management Plan (HS Management Plan) could not be obtained; this documentation gap will be addressed through the Corrective Action Plan (CAP).
271. Furthermore, during the April 2026 site visit, direct observations of the ongoing minor civil works revealed only partial compliance with PPE requirements. As evidenced by site photos (see figures below), while workers were generally utilizing basic PPE such as high-visibility vests and protective gloves, safety deficiencies were still present. Specifically, workers were observed operating without mandatory hard hats (helmets) and engaging in unsafe practices, such as balancing on narrow wooden formwork over trenches without fall protection.



Figure 22. Work process and PPE usage practices

272. Verbal instructions and warnings were immediately issued on-site regarding these violations. Crucially, the execution of these works confirmed the absolute absence of a dedicated, on-site HSE officer to continuously monitor and enforce safety rules.
273. Physically, the field visit showed that the former construction camp is not fenced, and there are no warning or prohibitory signs in the camp area. Although the facility is located away from densely populated areas, there are farms nearby, and the scattered construction waste and open access still may create localized Community Health and Safety risks (e.g., traumatism of livestock or residents). Corrective actions, including site cleanup and access restriction, are required.

2. Future Risks and Mitigation Measures

274. The forthcoming rehabilitation involves replacing open canals with underground pipelines along the remaining 8-9 km segment of the G-42 distributor. It should be specifically noted that this remaining section is located even further away from residential settlements, central rural roads, and public facilities than the already rehabilitated areas. Because this segment primarily traverses isolated agricultural lands and pastures bordering the Korughi Managed Reserve, the anticipated risks to Community Health and Safety are exceptionally low.

275. Nevertheless, the works will necessitate deep trenching, heavy machinery operations, and potential exposure to legacy asbestos pipes, extreme summer temperatures, and local wildlife. To mitigate these occupational and localized community hazards, the future Contractor must develop a comprehensive H&S Management Plan as an integral part of the SSEMP. It is a strict prerequisite that the Contractor mobilizes a full-time, dedicated HSE Officer on-site to ensure continuous supervision of all safety protocols. The core mandatory protocols must include:

- **Trenching and Excavation Safety:** Implement progressive trenching (synchronized excavation, pipe-laying, and rapid backfilling) to minimize open sections. Ensure proper shoring or benching for depths exceeding 1.2 meters, safe egress (ladders within 15 meters), and daily stability inspections in strict compliance with Georgian Government Resolution No. 341. Strict enforcement of full PPE (including hard hats, safety boots, and fall protection where applicable) must be continuously monitored by the HSE Officer.
- **Asbestos Management:** Strictly enforce the Asbestos Management Procedure (as referenced in the ACM section and Annex 13), ensuring that any old asbestos pipes are handled using wet methods, appropriate PPE (P3 respirators), double-bagging, and licensed hazardous waste operators.
- **Heat Stress and Wildlife Hazards:** Implement a Heat Stress Management Plan during peak Kakheti summer temperatures (exceeding 35°C), including mandatory work-rest cycles, shaded areas, and continuous hydration. Additionally, provide worker training on venomous snakes (vipers) and ensure active fronts and camp clinics are stocked with valid anti-venom.
- **Community Safety:** Install reflective warning signs along the entire alignment and deploy temporary protective barriers at high-risk sections (e.g., public road crossings and livestock/pasture access routes). Enforce a strict Worker Code of Conduct, conduct periodic community awareness meetings, and manage all health, safety, and social concerns through the project's GRM.

I. Traffic

1. Audit Findings and Current Status

276. During the rehabilitation works completed to date, traffic-related impacts were minimal. The rehabilitated sections primarily traverse agricultural lands, far from densely populated urban centers or complex road networks. Consultations did not reveal any grievances related to road blockages, traffic congestion, or damage to local infrastructure caused by the previous contractor's heavy machinery.

2. Future Risks and Mitigation

277. For the remaining 8-9 km segment of the G-42 distributor, the anticipated traffic risks are extremely low. This specific section is located deep within agricultural fields and pastures, significantly distanced from public facilities, residential areas, and the main S5 International Highway. The movement of heavy machinery will be highly localized and limited to rural dirt tracks used by local shepherds and farmers.
278. Despite the exceptionally low risk, the future Construction Contractor must ensure safe and organized transport logistics. Rather than a standalone document, comprehensive traffic management aspects (Traffic Management Plan elements) must be formally integrated into the SSEMP. Key mandatory measures will include:
- Defining and strictly adhering to designated heavy machinery traveling routes to avoid uncoordinated movement through active agricultural plots.
 - Enforcing a maximum speed limit of 30 km/h for all project vehicles on rural and unpaved access roads.
 - Installing standard warning signage at intersections with local rural tracks.
 - Providing timely prior notification to local landowners if temporary closure of any minor agricultural access road or crossing is required, ensuring safe bypass tracks are available.
 - Repairing any damage caused to local rural roads or micro-crossings by construction vehicles immediately upon the completion of works in that segment.

J. Social Aspects and Grievance Redress Mechanism

1. Audit Findings and Current Status (Implemented Works)

279. During the initial stages of the project, communication with stakeholders appears to have been carried out on an informal basis. Interviews with the Korughi Nature Reserve administration indicated that no complaints were raised regarding noise or other environmental impacts during the active construction phase.
280. According to GA, concerns were reportedly addressed through the local GA service center; however, no systematic recording, tracking, or formal documentation of such complaints was available for review.
281. A formal GRM, grievance log, and related procedures consistent with ADB SPS (2009) requirements could not be identified at this stage. Similarly, records of prior consultations or minutes of meetings with residents and farmers could not be obtained. While no major environment-related grievances were identified through the limited consultations undertaken for this EDDR, the absence of formal records remains a procedural safeguard compliance gap that will be addressed through the CAP.

2. EDDR–SDDR Interface and Boundary Items

282. To ensure that complex audit items sitting on the boundary between environmental and social safeguards do not fall into the seam, strict coordination has been established between the EDDR and the Social Due Diligence Report (SDDR) workstreams. The primary responsibilities for these boundary items are delineated as follows:
- Camp Plot (Privately Owned Agricultural Land): The SDDR consultant holds primary responsibility for assessing the land-use authorization (under the Law on Purpose of Land 2019 Art. 6(3)) and rental agreements. The EDDR consultant is strictly responsible for assessing physical soil contamination, waste abandonment, and site reinstatement requirements.

- **Naniani Disposal Site:** The SDDR consultant investigates the affected owners and use rights of the territory. The EDDR consultant evaluates the environmental permitting and physical disposal compliance.
- **Pre-Project Consultation Records & Operational GRM:** The SDDR leads the evaluation of community livelihoods and the establishment of a unified, operational-phase GRM. The EDDR consultant will utilize this shared GRM framework specifically for tracking EHS grievances.

283. To support this coordination, a shared evidence register is maintained by the consultants to jointly log and track documents requested from GA and LLC Smart Solution. Furthermore, a joint review gate was established between the EDDR and ISDDR preparation stages to confirm no boundary item has slipped. This EDDR and the SDDR explicitly cross-reference one another with consistent findings.

3. Future Social Impacts

284. Regarding the forthcoming rehabilitation of the remaining 8-9 km segment of the G-42 distributor, social risks are considered exceptionally low. Unlike other regional projects, this specific segment traverses highly isolated agricultural lands and pastures. There are no residential settlements, public facilities, utility lines, or community cemeteries located directly within or immediately adjacent to this active project footprint.

285. Consequently, risks related to traffic disruption, damage to private property, or community nuisance (noise/dust) are practically negligible.

286. To maintain this low-risk profile, the future Contractor must comply with the following mandatory requirements (to be included in the SSEMP):

- In accordance with Georgian legislation restricting the use of agricultural land for non-agricultural purposes, any new construction camps or material storage areas required for the remaining works must be strictly located on state-owned, non-agricultural land to prevent the authorization issues encountered during the previous phase.
- Prior to the resumption of works, a formalized, ADB-compliant GRM must be fully operational and disclosed to local shepherds and farmers, ensuring any unanticipated social or environmental concerns are systematically registered and resolved.

K. Operational Impacts

287. The operational phase of the modernized Area 5 and Area 6 (G-41 and G-42) networks will not generate any permanent sources of noise, vibration, or harmful emissions. Conversely, replacing the dilapidated open concrete canals with a completely buried, pressurized pipeline system delivers substantial, long-term positive impacts:

- **Community Safety and Land Use:** The risks of residents and domestic livestock falling into or drowning in open canals are fundamentally eliminated. The underground infrastructure restores unrestricted surface mobility and land use for the local community without the structural need for permanent safety fencing.
- **Ecological Connectivity:** The removal of open canals eliminates artificial linear barriers, thereby ending historical habitat fragmentation. This ensures the safe, unobstructed movement of local wildlife (e.g., the Mediterranean tortoise) and permanently prevents fauna mortality due to trapping or drowning—a particularly significant ecological benefit given the immediate proximity to the Korughi Managed Reserve.

- **Climate Resilience & Water Resources:** The closed system eliminates water losses from evaporation and deep seepage, ensuring highly efficient distribution under future climate-induced water scarcities. Furthermore, the project does not increase overall water abstraction from the Iori River, thereby safeguarding the required downstream environmental flow.

288. While the operational impacts are overwhelmingly positive, Georgian Amelioration (GA) must manage specific, localized risks during the system's lifespan:

- **System Maintenance:** Periodic pipe flushing and sediment clearing must be carefully scheduled and executed using good environmental practices to prevent excessive suspended sediment discharge into natural drainages and to ensure the safe, legal disposal of extracted sediment waste.
- **Induced Agricultural Pressures:** Improved irrigation reliability may incentivize agricultural intensification and the increased use of chemical fertilizers and pesticides by local farmers.
- To prevent induced soil and groundwater pollution, it is highly recommended that GA integrates mandatory modules on sustainable agrochemical application and efficient water management into its regional farmer training and extension programs.

L. Cumulative Impacts

289. The only major ongoing linear infrastructure project in the wider region is the modernization of the S5 Tbilisi-Bakurtsikhe Motorway. However, the remaining rehabilitation works for Area 6 (the 8-9 km segment of the G-42 canal) are extremely small in scale and localized. Consequently, the incremental contribution of this specific subproject to regional cumulative impacts - such as traffic congestion, dust generation, or exhaust emissions - is considered negligible and insignificant.

290. **Cumulative Impacts on the Korughi Managed Reserve:** A specific cumulative scenario must be evaluated regarding the Korughi Managed Reserve. There is a possibility that the rehabilitation of the adjacent Irrigation Areas 1-4 and the remaining 8-9 km segment of Area 6 will be executed simultaneously. In such a scenario, temporary disturbing factors (e.g., construction noise, dust, and human presence) would cover a broader, continuous stretch along the northern boundary of the reserve. This extended zone of disturbance might cause local fauna to temporarily seek alternative shelters deeper within the protected area.

291. However, this concurrent schedule presents a significant environmental management advantage. With both Areas 1-4 and the remaining section of Area 6 falling simultaneously under the strict regulations of the ADB Safeguard Policy Statement (SPS 2009), the mitigation protocols and environmental monitoring will be fully unified. This means that a single, coordinated, and highly rigorous environmental standard will be enforced across the entire reserve boundary, thereby effectively minimizing and controlling the cumulative disturbance.

292. **Long-term Operational Benefits:** In the operational phase, the cumulative effects of completing the entire Kvemo Samgori irrigation network (including the Main Canal, Areas 1-4, and Areas 5-6) are profoundly positive.

293. Replacing the fragmented, degraded open canals with a unified, buried pressurized pipeline system eliminates water losses from evaporation, completely removes physical barriers for wildlife, and secures regional agricultural productivity. This modernization secures long-term climate resilience for the Kakheti region without increasing the overall water abstraction from the Iori River.

M. Transboundary impacts

1. Audit Scope and the Iori-Mingechauri Pathway

294. In strict compliance with the ADB Safeguard Policy Statement (SPS 2009, SR1) and the project's Environmental Assessment and Review Framework (EARF), transboundary effects fall entirely within the scope of this EDDR.
295. The theoretical transboundary pathway for the Kvemo Samgori command area involves localized drainage potentially reaching the Iori River, which subsequently flows across the international boundary into the Mingechauri Reservoir in the Republic of Azerbaijan.
296. Therefore, evaluating construction-phase risks (e.g., sediment, potential hydrocarbon release) and operational-phase return flows from Areas 5 and 6 along this pathway is a mandatory safeguard requirement.

2. Audit Findings and Risk Assessment

297. Based on the site's topographical and hydrological characteristics, transboundary risks associated with the executed and remaining rehabilitation works in Areas 5 and 6 are assessed as negligible. This conclusion is substantiated by the following key factors:
- **Physical Distance:** The project footprint is located over 90 kilometers upstream from the Georgian-Azerbaijani border.
 - **Hydrological Buffers:** The nearest localized watercourse to the construction camp is the Mkrali Ole stream. This stream is highly ephemeral and remains completely dry for the majority of the year. It acts as a massive natural buffer, physically preventing the continuous downstream transport of any localized surface pollutants (e.g., potential construction-phase sediments or minor hydrocarbon drips) to the main Iori River.
 - **Minor Scale of Works:** The subproject solely involves the localized replacement of degraded open canals with buried pipelines. It does not introduce any industrial effluent discharges, nor does it alter the overall water abstraction limits or fundamental hydrology of the Iori basin.

3. Verification through Diagnostic Sampling

298. To definitively support this transboundary assessment with empirical data, the upcoming diagnostic laboratory analysis (as detailed in the sampling plan in Section above) will specifically target sediment sampling in the Mkrali Ole stream (upstream and downstream of the camp). Analyzing these bed sediments for Heavy Metals and Total Petroleum Hydrocarbons (TPH) will provide concrete, verifiable evidence that no historical contamination is migrating along this initial drainage pathway toward the Iori River.

4. Notification Status

299. Given that the 2024-2026 activities solely involved the minor rehabilitation of existing, state-funded irrigation infrastructure without increasing overall water withdrawal volumes or discharging significant effluents, no formal bilateral notification under customary international water law or existing Georgia-Azerbaijan arrangements was triggered or legally required.

5. Conclusion

300. Considering the vast geographical distance (>90 km) to the international border, the absolute buffering effect of dry seasonal ravines, and the exceptionally minor scale of the executed and remaining rehabilitation works, it is practically impossible for the activities in Areas 5 and 6 to generate any measurable transboundary impacts on the Republic of Azerbaijan.

N. GAP Analysis Summary

301. In accordance with ADB SPS (2009) Safeguard Requirement 1 (Para 70) for environmental audits of existing facilities, the identified gaps have been prioritized based on their severity. The severity criteria are strictly defined as follows:

- I. **Critical:** Significant adverse impacts or direct regulatory breach with severe health or irreversible ecological consequences. (Note: Every 'Critical' row maps one-to-one to a specific remediation line item in the Corrective Action Plan - CAP).
- II. **High:** Direct regulatory breaches (e.g., soil protection) or significant procedural/safeguard non-compliances that require targeted remediation, though remaining fully localized and reversible without long-term ecological consequences.
- III. **Medium:** Documentation or procedural gaps without direct physical impact.
- IV. **Low:** Minor editorial, administrative, or record-keeping deficiencies.

302. Important Note on Severity Classification: While several regulatory and procedural non-compliances were identified during this audit, it is explicitly concluded that none of these issues reach the threshold of "Critical". This is justified by the fact that the ongoing works are of very low intensity, the current contractor is demobilizing shortly, and all physical impacts are strictly localized and fully reversible. Most importantly, no works have been executed in the vicinity of the Korughi Managed Reserve, and no fundamental ecological balance or sensitive receptors have been significantly impacted. Therefore, the highest severity assigned in this specific audit is "High".

Table 5. GAP Analysis Summary

Issue	National Compliance Gap	ADB Safeguard Gap	Associated Risks	Severity
1. The need for environmental assessment documentation (EIA/IEE)	The project was exempt from EIA under EAC requirements, however, the need for environmental screening for the remaining 8 km of Area 6 remains to be determined.	There is no specific IEE and EMP prepared for Areas 5 and 6, which is mandatory for a Category B projects.	<u>Legal and reputational:</u> Project delay due to non-compliance with international standards.	High
2. Site-Specific Environmental Management Plan (SSEMP)	According to national legislation, the preparation of SSEMP is not mandatory.	At this stage, no confirmed information has been obtained that the contractor had prepared an SSEMP, which is mandatory for a Category B projects.	<u>Management deficit:</u> Lack of a mechanism for timely identification and correction of environmental violations.	High
3. Waste Management Plan (WMP)	GA's corporate Waste Management Plan was updated in 2024, agreed with MEPA, and remains valid through December, 2026	A general plan is not sufficient under ADB regulations. It was also not possible to find out about the existence of a specific management plan for asbestos-containing waste.	<u>Health and environmental pollution risks:</u> risks of unsystematic management of various types of waste, air pollution with asbestos dust, and carcinogenic hazards	High

Issue	National Compliance Gap	ADB Safeguard Gap	Associated Risks	Severity
4. Agreements regarding waste disposal (Inert Waste)	Discrepancies exist regarding the Gurjaani Municipality permit for the Naniani disposal site (dated 2020 vs works in 2024-2026).	Inability to clearly track where excavated sedimentary soil and inert waste were officially disposed of.	Procedural/Pollution: Unverified disposal locations and regulatory inconsistencies.	Medium
5. Agreements regarding waste disposal Hazardous/ Subcontractors)	No acceptance and delivery acts (manifests) signed with subcontractors for hazardous/non-hazardous waste management could be found.	Violates ADB requirements for maintaining a verifiable chain of custody for waste.	<u>Environmental pollution risks:</u> Risks of soil and groundwater pollution, as well as geological hazards from improperly managed waste. Status of compliance with the requirements of the Waste Management Code.	High
6. Asbestos-Containing Materials (ACM)	Improper handling and abandonment of broken ACM fragments violates Gov. Resolutions No. 145 and No. 421.	Violates ADB SPS Principle 9 (Pollution Prevention) regarding safe handling of hazardous materials.	<u>Health & Safety risks:</u> Occupational hazards from carcinogenic asbestos fibers if disturbed.	High
7. Topsoil Protection at the Camp	Fertile topsoil was not stripped before placing materials, directly violating the Law of Georgia 'On Soil Protection' (1994, Art. 4b). However, similar problems were not identified at other work sites. Even at the camp itself, the issue is not large-scale.	Contradicts ADB SPS (2009) principles on minimizing adverse impacts and conserving soil.	<u>Ecological/Legal:</u> Localized soil degradation and direct statutory breach (reversible through scraping). The issue has not caused massive ecological impacts.	Medium
8. Organizing a construction camp (Land Status)	The camp is located on agricultural land without changing its status. Compliance with the Law of Georgia "On Determination of the Purpose of Land and Sustainable Management of Agricultural Land" (2019) is to be clarified.	N/A	<u>Risks of possible violation of Georgian legislation (although legal justification is possible)</u> Furthermore, since activities at the camp are concluding and demobilization is imminent, this issue cannot be considered significant.	Medium
9. Waste management. Protection status of the environment (water, soil) from pollution. Scattered Waste and Contamination	Various types of waste (including hazardous waste - asbestos-containing material, oil-contaminated material) are scattered throughout the old construction camp, as well as some construction sites. The issue of agricultural and fecal water	ADB SPS 2009 Principle 9 (Pollution Prevention) Disclosure: Prohibits the abandonment of hazardous and non-hazardous wastes.	<u>Risks of environmental (water, soil) pollution. Risks related to health and safety</u>	High

Issue	National Compliance Gap	ADB Safeguard Gap	Associated Risks	Severity
	management at the construction camp needs to be clarified.			
10.Occupational and Community Health and Safety (Camp Fencing)	The old construction camp is not fenced. There are no warning signs, which is not in accordance with Georgian legislation.	ADB SPS 2009 Principle 10 (Occupational and Community Health and Safety) Disclosure.	<u>Risks of injury to residents or livestock</u> This is classified as "Medium" severity solely because there are no residential settlements nearby, the camp is nearing imminent demobilization, and these risks will soon cease to exist	Medium
11.Occupational and Community Health and Safety (PPE & Supervision)	Poor safety culture observed; workers balancing on trenches without hard hats. Absence of an on-site HSE officer.	Violates strict ADB SPS Principle 10 requirements for safe working environments and protective equipment.	<u>Safety risks:</u> risk of occupational accidents and worker injuries during pipe-laying works. This is classified as "Medium" severity only because the currently ongoing works are of very low risk and intensity, being executed primarily manually, and will be completed very soon.	Medium
12.Public consultations	Information about meetings held in villages is unavailable and undocumented.	There was no "meaningful consultation" and public disclosure of information in accordance with ADB standards. ADB SPS 2009 Principle 5 (Meaningful Consultation and Information) Disclosure.	<u>Social:</u> Risks of local residents' dissatisfaction and ineffectiveness of the Grievance Management Mechanism (GRM).	Medium
13.Transboundary Impacts	Not explicitly required under national law for this specific scale of works.	Procedural gap: Lack of a Transboundary Screening Memo to formally satisfy ADB SPS SR1.	<u>Procedural:</u> Failure to document absence of cross-border impacts. Furthermore, considering the vast geographical distance and the exceptionally minor scale of the works, any actual transboundary impact is practically impossible.	Low
14.Monitoring and supervision	At this stage, the information available at the national level was only general technical supervision without environmental audit. However, there are no significant requirements under Georgian legislation. According to the	SSEMP and Regular Environmental Monitoring Reports (SAEMR) have not been prepared.	<u>Management deficit:</u> Lack of a mechanism for timely identification and correction of environmental violations.	Medium

Issue	National Compliance Gap	ADB Safeguard Gap	Associated Risks	Severity
	requirements of the Waste Management Code, the construction contractor should have an external supervisor (the issue is to be clarified at the next stage of the study).			

VI. CORRECTIVE ACTION PLAN (CAP)

303. This CAP has been formulated in strict accordance with ADB SPS (2009) Safeguard Requirement 1 (Para 11) and Para 70 requirements for environmental audits of existing facilities. The CAP maps one-to-one with the identified gaps in the GAP Analysis, assigning specific remedial actions, responsibilities (divided among Georgian Amelioration [GA], the Contractor, and the PIU), verifiable completion criteria, indicative costs, and residual risk ratings.

Table 6. Corrective Action Plan (CAP)

Finding ID	Severity	Remedial Action	Responsible Party (Primary / Supporting)	Timeframe (Start - Completion)	Indicative Cost in GEL (Basis)	Completion Criterion (Document / Site Condition)	Verification Mechanism (Sign-off)	Residual Risk
ID 1: EIA/IEE Screening	High	Clarify the national screening requirements for the remaining 8-9 km of Area 6 and update project environmental assessment documents accordingly. <i>(Note: There is a high probability that the formal screening process will not be required under national legislation).</i>	Primary: PIU Supporting: GA	June 2026 – Prior to resumption of works	Administrative (Covered under PIU operational budget)	Formal written confirmation/screening decision from MEPA; Updated IEE.	ADB / MEPA	Low
ID 2: SSEMP Preparation	High	Approval of SSEMP by ADB PIU for the remaining 8-9 km of Area 6 (Conditional on resumption of works).	Primary: Future Contractor Supporting: GA / PIU	Post-contract award - Prior to mobilization	Included in Contractor's mobilization overhead (Lump sum)	Formally approved SSEMP document prior to any site access.	PIU Safeguards Specialist / ADB	Low
ID 3, 4, 5: Waste Mgt & Disposal Acts	High / Medium	Prepare a Site-Specific WMP. Retrieve missing handover acts/manifests for	Primary: LLC Smart Solution / Future Contractor	June 2026 – July 2026	2000 –5000 GEL (Administrative effort + transport/disposal acts management)	Submitted WMP; Signed official waste transfer acts / manifests.	PIU Safeguards Specialist	Low

		inert waste (Naniani site) and hazardous waste generated during 2024-2026.	Supporting: GA					
ID 6: ACM Management	High	Isolate, package using wet methods (double-bagging), and transport identified ACM fragments (~0.5m³) to the authorized hazardous waste cell.	Primary: LLC Smart Solution / Licensed Subcontractor Supporting: GA	June 2026 – July 2026	5000 – 10000 GEL (Unit rate for specialized hazardous waste subcontractor + transport)	Official disposal certificate/receipt from the SWMCG landfill.	PIC / PIU	None
ID 7 & 9: Topsoil & Contamination	Medium / High	Conduct Delineation Soil Sampling. Scrape contaminated topsoil/oil drips at the old camp, transport to licensed facility, and perform site cleanup.	Primary: LLC Smart Solution, n, GA Supporting: / PIU	June 2026 – July 2026 Prior to Camp Closure	Placeholder: 3,000 – 10000 GEL (Est. based on volume of contaminated soil to be removed and lab testing cost)	Lab reports confirming < national limits; Clean site photos; Disposal manifests.	PIC / PIU	Low
ID 8 & 10: Camp Land Status & Fencing	Medium	Install warning signs immediately. Formally demobilize the old camp (agricultural land). Ensure future camps are sited strictly on non-agricultural land.	Primary: LLC Smart Solution / Future Contractor Supporting: GA	Immediate (Signs) – July 2026 (Closure)	≈500 GEL (Signs, lump sum); Demobilization is part of Contractor OH.	Camp Closure Act; Photographic evidence of restored agricultural land.	PIC / PIU	None
ID 11: H&S PPE & Supervision	Medium	Appoint an on-site HSE Officer. Enforce strict PPE compliance (hard hats, etc.) for all ongoing and future minor civil works.	Primary: LLC Smart Solution / Future Contractor Supporting: GA	Immediate and Continuous	Included in Contractor's operational overhead (Monthly salary of HSE Officer)	Daily HSE inspection logs; Photographic evidence of PPE usage.	PIC	Low

ID 12: GRM & Consultations	Medium	Formalize unified GRM log. Translate Executive Summary/CAP into Georgian and disclose at GA local service centers.	Primary: Consultant Supporting: PIU	June 2026 – July 2026 Pre-Final EDDR submission	Covered under Consultant's contract	Established GRM logbook; Photos of publicly posted documents at GA offices.	ADB / PIU	Low
ID 13: Transboundary Impacts	Low	Prepare Transboundary Screening Memo cross-referencing Package 1 to formally close out SR1 monitoring obligations.	Primary: Consultant Supporting: PIU	June 2026 – Prior to Final EDDR	Covered under Consultant's contract	Transboundary Screening Memo appended as Annex to Final EDDR.	ADB	None
ID 14: Monitoring & SAEMR	Medium	Implement a systematic environmental monitoring framework and prepare regular Semi-Annual Environmental Monitoring Reports (SAEMR).	Primary: PIU / PIC	Resumption of works – Continuous	Covered under PIU/PIC operational budget	Officially submitted and disclosed SAEMRs.	ADB	Low

VII. FUTURE WORK PLAN AND TIMELINE

304. The table below provides information on upcoming meetings and fieldwork and the corresponding estimated timelines. The information presented in this document will be refined based on the planned meetings and fieldwork.

Table 7. Future work plan and timeline

Activity	Description & Objective	Cross-reference (GAP ID)	Deliverable	Section	Timeline
Site-Specific IBAT & Biodiversity Walkover	Verification at Korughi boundary; IBAT proximity report generation. Detailed scope aligned with Biodiversity Mitigation Protocol (Annex 12).	ID 1, ID 2	IBAT Report; Biodiversity Survey Report	V.C	June 2026
Instrumental Monitoring	Instrumental baseline measurements (noise, vibration, air) by certified lab, conducted as per Table 4: EDDR Environmental Sampling and Instrumental Monitoring Plan.	ID 14	Certified Lab Monitoring Report	V.E	June 2026
Diagnostic Soil/Sediment Sampling	Soil testing (TPH, Heavy Metals) at camp and sediment sampling in Mkrali Ole, as per Table 4: EDDR Environmental Sampling and Instrumental Monitoring Plan.	ID 5, ID 9	Certified Laboratory Analytical Results	V.E	June 2026
Stakeholder Consultations	Targeted meetings with local farmers/residents (Kachreti/Kazlari) and GRM disclosure, following Annex 10 (Meeting Minutes Template).	ID 12	Meeting Minutes	V.J	June-July 2026
Archival & Document Review	Final verification of GA archives for H&S protocols, waste manifest proofs, and sub-contractor agreements and etc.	ID 3, ID 5	Compliance Audit Memo / Document Log	V.A	June-July 2026
Public Disclosure	Translation of Executive Summary/CAP into Georgian and disclosure at GA service centers.	ID 12	Disclosure Evidence (Photos/Signed Log)	V.A	July 2026
Submission of the final EDDR	A final document preparation taking into account all comments and research results.	-	-	-	End of July 2026

VIII. CONCLUSIONS AND RECOMENDATIONS

305. Based on this audit and findings, it is concluded that while the project was compliant with national legislation during its inception, there are significant gaps relative to ADB SPS 2009 requirements. The most critical issues identified involve the management of asbestos-containing materials (ACM), the absence of site-specific H&S management protocols, and a lack of formal stakeholder engagement.
306. Notwithstanding these identified gaps, the current environmental situation is not considered critical; there are no immediate threats to surrounding environmental receptors or protected areas, and all identified issues are manageable through the proposed CAP.
307. Key Recommendations and Next Steps:
- Many identified Gaps (such as the lack of H&S staff or specific waste disposal agreements) are based on reconnaissance, including the field surveys and stakeholder consultations conducted in December 2025 and April 2026..
 - The project must proceed with a dual-focus strategy: addressing the immediate safety risks of the idle sites (Conservation) and preparing a comprehensive SSEMP for the remaining 8-9 km (Continuation).
 - Social and environmental findings should be cross-referenced with the upcoming Social Due Diligence Report (SDDR) to ensure a holistic mitigation strategy for affected local farmers. specifically regarding the Grievance Redress Mechanism (GRM).
308. All findings in this document are subject to final refinement through mandatory forthcoming field investigations (instrumental monitoring and diagnostic sampling) and verification prior to the commencement of civil works.

IX. Annexes

Annex 1. A comprehensive environmental questionnaire for GA

Preliminary Questionnaire for Georgia Melioration LLC

For the preparation of an Environmental and Social Due Diligence Report for the Kvemo Samgori Left Main Canal Irrigation System – Irrigation Area 5 (G-41) and Irrigation Area 6 (G-42)

In accordance with the requirements of the Asian Development Bank (ADB) Safeguard Policy Statement (SPS, 2009), it is necessary to prepare an Environmental and Social (Resettlement) Due Diligence Report for the Kvemo Samgori Left Main Canal Irrigation System – Irrigation Area 5 (G-41) and Irrigation Area 6 (G-42). In accordance with the consultations of our preliminary meeting (05.02.2026), we are sending you a preliminary questionnaire regarding the rehabilitation works carried out in the past within this area:

#	Issue	GA's response
General part:		
1.	Official name of the completed project	1. "Rehabilitation of the left main canal of the I row G-41 of the Kvemo Samgori irrigation system and its II row distributors" in Gurjaani municipality. 2. "Rehabilitation of the left main canal of the I row G-42 distributor of the Kvemo Samgori irrigation system from PK 0+00 to PK 95+00 and its II row G-42-1÷G-42-12 distributors (stage I)". 3. "Installation of hydrants on the II row G-42-9 ÷ G-42-11 distributors of the I row G-42 distributor of the Kvemo Samgori irrigation system."
2.	Project implementation (start-finish) dates	2024-2026
3.	Name of the contractor company	LLC "Smart Solution"
4.	Brief description of the works performed according to the approximate picketing (e.g. replacement of concrete slabs of open channels, rehabilitation and restoration of culverts and aqueducts, etc.)	
5.	Do you have information on the contact information of relatively large stakeholders in the project's impact zone (e.g. farming associations, etc.)?	
6.	Brief information on the balance and seasonality of water supplied to farmers at this stage. Water supply metering mechanisms	
7.	5th and 6th Sh.file of the territory in electronic format	Delivered with a disk in hand.
Organization of construction works:		
1.	As far as we know, 1 construction camp was used during the project implementation (see image). Please provide us with the coordinates (x, y) of the mentioned camp and its approximate composition. If possible, please provide us with a plan of the camp, its old photos (when it was operational)	X -561479; Y-4608251.
2.	Was any other temporary infrastructure used? For example, a concrete batching plant or a crushing and sorting plant? In such case, their approximate locations	Unknown.

	(If subcontractors were used, if possible, please provide us with information on where these construction materials were supplied from)	
3.	Was there an agreement with the private owners of the land plots or the local authorities on the use of the temporary infrastructure?	The project envisages rehabilitation of the facility along the old existing route, which does not cross private properties. Therefore, the above agreements are not required.
4.	Was there an agreement between the contractor and private companies on the disposal of waste/agricultural and sewage water? Or an agreement with the LLC "Solid Waste Management Company"? Are there any relevant acceptance and delivery points for waste disposal?	Personnel sanitary water was collected in a temporary sewage system, which was removed from the construction site by the contractor, in accordance with environmental requirements.
5.	Do you have information about the placement of waste rock and/or top soil? If such places exist, please provide us with their coordinates	• In accordance with Letter No. 9242-g of October 27, 2020, a territory was allocated in the village of Naniani, on the so-called dry ravine, 500m from the end of the village, for the disposal of dismantled construction waste and removed sedimentary soil during the rehabilitation of the irrigation system; • The backfilled soil was leveled in accordance with the natural relief throughout the entire project area.
6.	Do you have information about any negative incidents during the project, such as conflicts between the population and the builder, injuries or accidents to employees, environmental protection problems, damage to private property, etc. How were these issues resolved by you?	No negative incidents, environmental violations, or damage to private property were recorded between the population and the builder.
Environmental documents and records:		
1.	Was an Environmental Management Plan (EMP) prepared in advance and was this plan agreed with the Georgian Melioration?	The rehabilitation of the facility was carried out in accordance with the old, existing route. Therefore, the development of a special environmental plan was neither necessary nor an Environmental Management Plan (EMP) was agreed; • The contractor, in accordance with the tender requirements, provided its workers with a briefing that included environmental protection rules at the construction site.
2.	Was there a waste management plan agreed with the Ministry of Environment Protection and Agriculture of Georgia?	"Georgian Reclamation" LLC has had waste management plans agreed with the Ministry since 2021, which include information on waste generated within the entire territory of the company (updated as necessary);
3.	Was there an asbestos-containing waste management plan agreed with the Ministry of Environment Protection and Agriculture of Georgia?	The plans agreed with the Ministry of Environmental Protection and Agriculture of Georgia since 2021 do not include the management of asbestos-containing waste. Accordingly, the aforementioned asbestos-containing waste management plan has not been agreed with the Ministry;
4.	Were timber resource accounting (so-called taxation) studies conducted in advance and were they agreed with the Forestry Agency? Or did you indicate that there was no need for this?	• The tree assessment report was completed by the selected contractor, within the framework of the full canal rehabilitation corridor, 1302 tree stumps of various sizes (thickness) and species were recorded;

		• The assessment was carried out in advance, illegal felling of trees near the territory by the working personnel was strictly prohibited; • In exceptional cases, construction works were carried out under constant control near each tree to prevent excessive compaction of the soil at the base of the trees, storage of heavy materials, and the movement of construction equipment was regulated; • The tender requirements stipulated that if any tree was damaged or cut down without consent, or withered due to construction works, a sapling of the appropriate size should be planted in its place with the consent of the project technical unit.
5.	Were any other environmental documents prepared and agreed with you? For example: Top-soil management plan, health and safety plan, etc.	• In accordance with the project tender requirements/technical specifications, the occupational safety and emergency response plan was posted in a visible location at the construction site; • Topsoil management was carried out in accordance with the project tender requirements/technical specifications, which is in line with the Law of Georgia "On Soil Protection".
Other:		
1.	To your knowledge, has any work been done in the vicinity of the "Korughi Reserve" and is there any communication/agreement with the administration of the protected area in this regard?	No work has been carried out near the "Korughi reserve".
2.	Have there been any complaints from the population/farmers regarding water supply, environmental or social issues since the project was completed? If so, how were these issues resolved?	At this stage, no complaints have been received regarding environmental and social issues.
3.	Your brief comment on the mood of the population since the rehabilitation of the irrigation system	Satisfactory. The population expressed gratitude!
4.	Your brief comment on the current technical condition of the system and whether any additional work is required?	1. G-41 - Completed. At this stage, it is completely operational. 2. G-42 - Work is currently underway. At this stage, the facility has been rehabilitated in a zone of approximately 9 km in length, with a zone of approximately 8 km remaining.
5.	According to our information, an open warehouse of concrete slabs is currently being arranged in one of the areas (see picture). Please provide us with information about the future plans for this warehouse. Are these slabs planned to be used in other projects?	During the rehabilitation of facilities, we store suitable slabs and then use them when carrying out repair works. It will also be possible to use these slabs when carrying out repair works on the channel of the corresponding section. However, their subsequent use for specific work is not planned at the moment.

Note:

- Please provide as brief and specific answers as possible. For issues that are unknown to you, please indicate "No information available."
- Please also provide us with the contact information of your employee who was directly involved in the project and who will be able to provide detailed information on these and other issues during the field visit.

Annex 2. Official Correspondence and Institutional Communications

Official Request Letter submitted to Georgian Amelioration (GA)



გარემოს დაცვისა და სოფლის
მეურნეობის სამინისტრო

07 მაისი 2026

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შპს „საქართველოს მელიორაციის“ გენერალურ დირექტორს
ბატონ გიგლა თამაზაშვილს

ბატონო გიგლა,

როგორც თქვენთვის ცნობილია აზიის განვითარების ბანკის (ADB) უსაფრთხოების პოლიტიკის (SPS 2009) მოთხოვნათა შესაბამისად, მიმდინარეობს ქვემო სამგორის სარწყავი სისტემის მარცხენა მაგისტრალური არხის რეაბილიტაციის პროექტის (G-41 და G-42 არხები / არეალები 5 და არეა 6) გარემოსდაცვითი აუდიტი (EDDR).

წინასწარი დოკუმენტი (EDDIR) მომზადებული იქნა თქვენს მიერ მოწოდებული ინფორმაციის და 2025 წლის დეკემბერში აღნიშნული არეალების დათვალიერების საფუძველზე (პროცესში, ADB-ს ექსპერტებიც იღებდნენ მონაწილეობას).

EDDIR-თან დაკავშირებით ADB-სგან მივიღეთ შენიშვნები, რომლებზეც პასუხის გაცემა და შუალედურ EDDR-ში ასახვა შეუძლებელია თქვენი აქტიური ჩართულობის გარეშე.

გთხოვთ, შემდგომი დაგეგმვად მოკლე ვადებში მოგვანოდოთ/დაგვიზუსტოთ შემდეგი ინფორმაცია:

1. კარტოგრაფიული მონაცემები - საპროექტო მონაცვეთების (არეალები 5 და 6) განახლებული Shape ან KMZ ფაილები, სადაც მკაფიოდ იქნება გამოჩენილი უკვე რეაბილიტირებული და სამომავლოდ G-42-ის დასასრულებელი (დარჩენილი მ-9 კმ) მონაკვეთი. აღნიშნული მონაცემები აუცილებელია დაცული ტერიტორიების (იორი, ყორღი, მარიამცვარი) საზღვრებთან მიმართებით ბუფერული ზონების დასაზუსტებლად.

2. პრესებული მდგომარეობა - 2026 წლის 24 აპრილს ზედამხედველი კომპანიის მიერ სავსელ დათვალიერების და ადგილობრივი სერვისცენტრის გამოკითხვის შედეგად გამოიკვეთა, რომ დღეის მდგომარეობით კონტრაქტორი კომპანია - შპს „სმარტ სოლუშენს“ ახორციელებს მხოლოდ ჰიდრანტების მოწყობას, აღნიშნული მცირე მოცულობის სამუშაოების შესრულება ძირითადად ხდება მძიმე ტექნიკის გამოყენების გარეშე, მიღებული ინფორმაციით ეს სამუშაოები მოკლე ვადებში (სარწყავი სეზონის დაწყებამდე) დასრულდება, შესაბამისად განიხილება პრესებული ბანაკის დემონტირება. G-42-ის დარჩენილი 8-9 კმ მონაკვეთის რეაბილიტაციის განახლება იგეგმება მომავალში, დამოუკიდებელი კონტრაქტის შესაბამისად, გთხოვთ დაგვიდასტუროთ ეს ინფორმაცია, ან მოგვანოდოთ შესაბამისი დაზუსტებული მონაცემები.
3. ნარჩენების მართვა და სამართლებრივი საკუთრება - თქვენ მიერ ადრე მოწოდებული ინფორმაციით:
- o „2020 წლის 27 ოქტომბრის № 9242-გ წერილის შესაბამისად, სარწყავი სისტემის რეაბილიტაციისას დემონტირებული სამშენებლო ნაგვის და ამოღებული დანალექი გრუნტის დასაყრდელად, გამოყოფილი იყო ტერიტორია სოფელ ნანიანში, ე.წ. მშალ ხევზე, სოფლის ბოლოდან 500მ-ში, უკუჩაყრით დაყრილი გრუნტი სრული საპროექტო ტერიტორიის მასშტაბით გასწორებულ იქნა ზენებრივი რელიეფის შესაბამისად;
 - o „შპს „საქართველოს მელიორაცია“ სამინისტროსთან შეთანხმებულ, ნარჩენების მართვის გეგმის ფლობს 2021 წლიდან, რომელიც მოიცავს კომპანიის სრული ტერიტორიის ფარგლებში წარმოქმნილი ნარჩენების შესახებ ინფორმაციას (განახლება ხორციელდება საჭიროებისამებრ);

გთხოვთ მოგვანოდოთ განახლებული ინფორმაცია ამ საკითხებთან დაკავშირებით, კერძოდ:

- o არის თუ არა ნანიანის ობიექტი ოფიციალურად ნებადართული ინერტული ნარჩენების პოლიგონი საქართველოს მთავრობის #421 დადგენილების მოთხოვნათა შესაბამისად?
 - o ხომ არ მოხდა ნარჩენების მართვის გეგმის განახლება და შეთანხმება სამინისტროსთან?
 - o შესაძლებლობის შემთხვევაში მოგვანოდეთ ნებისმიერ სახის დოკუმენტური დადასტურება აღნიშნული პროექტის ფარგლებში წარმოქმნილი ნარჩენების მართვის, მათ შორის საბოლოო განთავსების ან რეციკლირების შესახებ (მაგ, ზედმეტი ნიადაგის/ქანების (ნაგვის) გატანის დამტკიცებული ადგილების დამადასტურებელი საბუთები, მიღება ჩაბარების აქტები და სხვა), წარმოადგინეთ შეთანხმებები ადგილობრივ მუნიციპალიტეტებთან ან მიწის კერძო მესაკუთრეებთან და დადასტურება, რომ ეს ადგილები არ ახდენდა გავლენას გარემოსდაცვის კუთხით მგრძნობიარე ზონებზე.
4. კონტრაქტორი კომპანიის ბანაკის ტერიტორიაზე არსებული სასოფლო-სამეურნეო მიწის ნაკვეთის იჯარის ხელშეკრულება, იჯარის ხელშეკრულებასთან ერთად, გთხოვთ, მოგვანოდოთ ინფორმაცია, იყო თუ არა შეცვლილი მიწის მიწნობრივი დანიშნულება ბანაკის მოწყობისთვის, „მიწის მიწნობრივი დანიშნულების შესახებ“ კანონის მე-6 მუხლის მოთხოვნათა შესაბამისად.
5. ინფორმაცია ბანაკის ტერიტორიაზე ნიადაგის ნაყოფიერი ფენის მოხსნის, დასაწყობებისა და მართვის შესახებ (შესაბამისი ოქმები, ასეთის არსებობის შემთხვევაში).
6. გთხოვთ, მოგვანოდოთ ინფორმაცია 2024-2026 წლებში საგარეჯოსა და გურჯაანის სერვის-ცენტრებში დაფიქსირებული საჩივრების შესახებ (ასეთის არსებობის შემთხვევაში), რომელიც ეხება 5 და 6 პრეტალების სარეაბილიტაციო სამუშაოებს.
7. გთხოვთ მოგვანოდოთ ნებისმიერი დოკუმენტაცია და ფოტომასალა, რომელიც ადასტურებს, რომ სამშენებლო ობიექტები გაიწმინდა და დაუბრუნდა პირვანდელ მდგომარეობას.
8. კოორდინაცია მშენებელ კონტრაქტორთან - ADB-ს მოთხოვნით, აუდიტის პროცედურული ვალიდურობისთვის აუცილებელია პირდაპირი კომუნიკაცია მშენებელ კონტრაქტორთან - შპს „სმარტ სოლუშენს“, ვინაიდან აღნიშნული კომპანია დაქირავებულია თქვენს მიერ, ADB ითხოვს, რომ მელიორაციამ ოფიციალურად მიმართოს კონტრაქტორს ჩვენს მიერ მომზადებული კითხვებით (იხ. ამ კითხვარის დანართი 1). გთხოვთ, აღნიშნული წერილი გაიგზავნოს უმოკლეს

ვადებში, რათა კონტრაქტორს განესაზღვროს 15 სამუშაო დღე პასუხის მოსაწოდებლად. წერილის
ასლი ასევე უნდა გაეგზავნოს PIU-ს, შემდგომში, ამ წერილების ასლები უნდა აისახოს EDDR-ში.

დანართი: 1 ფურცელი

პატივისცემით,

ლამა დოდოძე

მინისტრის მოადგილე



<https://edocument.galmea/public/#/2690-01-2-202605071552>



To Mr. Gigla Tamazashvili
General Director
Georgian Amelioration LLC

Dear Mr. Tamazashvili,

As you are aware, in accordance with the requirements of the Asian Development Bank's Safeguard Policy Statement (ADB SPS 2009), an Environmental Due Diligence and Audit (EDDR) is currently being conducted for the rehabilitation project of the Left Main Canal of the Lower Samgori Irrigation System (G-41 and G-42 canals / Areas 5 and 6).

The preliminary Environmental Due Diligence Investigation Report (EDDIR) was prepared based on the information provided by your company and the site inspections conducted in December 2025 within the project areas, in which ADB experts also participated.

We have received comments from ADB on the EDDIR, which cannot be adequately addressed or incorporated into the interim EDDR without your active involvement.

We kindly request that you provide and/or clarify the following information at your earliest convenience:

1. Cartographic Data

Updated Shape (SHP) or KMZ files for the project sections (Areas 5 and 6), clearly distinguishing between:

- sections already rehabilitated; and
- the remaining section of G-42 (approximately 8–9 km) to be completed in the future.

These data are required to accurately determine buffer zones in relation to the boundaries of the protected areas (Iori, Korugi, and Mariamjvari).

2. Current Status

Based on the field inspection conducted by the supervision company on 24 April 2026 and consultations with the local service center, it was determined that the contractor "Smart Solutions" LLC, is currently engaged only in the installation of hydrants. These minor-scale works are reportedly being carried out without the use of heavy machinery.

According to the information received, these activities are expected to be completed shortly, prior to the commencement of the irrigation season. Consequently, demobilization of the existing construction camp is being considered.

The rehabilitation of the remaining 8–9 km section of G-42 is expected to resume in the future under a separate contract.

Please confirm this information or provide any necessary corrections and updates.

3. Waste Management and Legal Compliance

According to information previously provided by your company:

- Pursuant to Letter No. 9242-G dated 27 October 2020, an area located near the village of Naniani, at the Dry Ravine, approximately 500 m beyond the village boundary, was allocated for disposal of construction waste generated during rehabilitation works and excavated sediment material. The backfilled material was leveled across the entire project area in accordance with the natural terrain.
- Since 2021, Georgian Amelioration LLC has maintained Ministry-approved Waste Management Plans covering waste generated throughout the company's operational territory, with updates made as necessary.

Please provide updated information on the above matters, specifically:

- Whether the Naniani disposal site is officially authorized as an inert waste landfill in accordance with the requirements of Government Resolution No. 421;
- Whether the Waste Management Plan has been updated and re-approved by the Ministry;
- Where possible, please provide documentary evidence relating to the management of waste generated under this project, including final disposal or recycling records (documentation confirming approved disposal sites for excess soil, rock, or construction waste; acceptance certificates; transfer records; etc.);
- Please also provide any agreements concluded with local municipalities or private landowners and confirmation that such disposal locations did not affect environmentally sensitive areas.

4. Lease Agreement for Agricultural Land Used as the Contractor's Camp

Please provide the lease agreement for the agricultural land plot used for the contractor's camp.

In addition, please provide information on whether the land-use designation was officially changed for the purpose of establishing the camp, in accordance with Article 6 of the Law of Georgia on Determination of the Designated Purpose of Land.

5. Topsoil Management- Please provide information regarding the stripping, storage, and management of fertile topsoil within the camp area, including any relevant records or protocols, if available.

6. Complaints and Grievances- Please provide information regarding any complaints registered at the Sagarejo and Gujaani Service Centers during the period 2024–2026 relating to rehabilitation works within Areas 5 and 6, if any.

7. Site Restoration- Please provide any documentation and photographic evidence demonstrating that construction sites have been cleaned up and restored to their original condition.

8. Coordination with the Construction Contractor- Per ADB's request, direct communication with the construction contractor, "Smart Solutions" LLC, is required to ensure the procedural validity of the audit.



As the contractor was engaged by Georgian Ameliration LLC, ADB requests that Georgian Ameliration officially forwards to the contractor the questions prepared by our team (see Annex 1 to this letter).

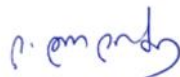
We kindly request your to send this letter at the earliest possible opportunity so that the contractor may be given fifteen (15) working days to prepare its response.

A copy of the letter should also be provided to the Project Implementation Unit (PIU). Subsequently, copies of the correspondence should be reflected in the EDDR.

Attachment: 1 page

Yours sincerely,

Lasha Dolidze



Deputy Minister

7 May 2026

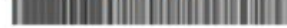
No. 2690/01

Official Clarification Letter and responses provided by Georgian Amelioration (May 20, 2026)



N 3-2584
20/05/2026

2584-3-2-202605201710



საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის

მინისტრის მოადგილეს

ბატონ ლაშა დოლიძეს

ბატონო ლაშა,

გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს 7 მაისის N2690/01 წერილის პასუხად, რომელიც ეხება აზიის განვითარების ბანკის უსაფრთხოების პოლიტიკის მოთხოვნათა შესაბამისად გარემოსდაცვითი აუდიტის განხორციელებას ქვემო სამგორის მარცხენა მაგისტრალური არხის G-41 და G-42 გამანაწილებლებზე, და რომლის რეაბილიტაციაც მიმდინარეობს შპს „საქართველოს მელიორაციის“ მიერ, გიზიარებთ ჩვენს ხელთ არსებულ ინფორმაციას და მასალას.

ნარჩენების მართვასთან დაკავშირებით დასმულ კითხვებზე, მოგახსენებთ, რომ საქართველოს ნარჩენების მართვის კოდექსის 21-ე მუხლის შესაბამისად, ინერტული ნარჩენები, რომლებიც გამოსადეგია ამოვსების ოპერაციებისთვის ან მშენებლობის მიზნებისთვის, შესაძლებელია არ განთავსდეს ნაგავსაყრელზე, თუ ისინი, სახელმწიფო ან მუნიციპალიტეტის ორგანოსთან შეთანხმებით, ამოვსებითი ოპერაციებისთვის ან პროექტით გათვალისწინებული მშენებლობის მიზნებისთვის იქნება გამოყენებული. შპს „საქართველოს მელიორაციაში“ ოფიციალურად მიმართა გურჯაანის მუნიციპალიტეტის მერს კონკრეტული ადგილის მისათითებლად, რომლის საფუძველზეც გამოყოფილ იქნა ტერიტორია სოფელ ნანიანში, ე.წ. მშრალ ხევზე, სოფლის ბოლოდან 500მ-ში. აღნიშნული ტერიტორია, ზემოხსენებული მუხლის თანახმად, არ საჭიროებდა ინერტული ნარჩენების პოლიგონის სტატუსის ქონას.

გარდა ამისა, შპს „საქართველოს მელიორაციის“ ნარჩენების მართვის გეგმა, საქართველოს ნარჩენების მართვის კოდექსის მე-14 მუხლის შესაბამისად, ახლდებოდა პერიოდულად, ყოველ 3 წელიწადში ერთხელ, ან წარმოქმნილი ნარჩენების სახეობის, რაოდენობის შეცვლის და დამუშავების პროცესში არსებითი ცვლილებების შეტანის შემთხვევაში. აღნიშნული გეგმა განახლდა 2024 წელს და შეთანხმებულ იქნა საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროსთან 3 წლის ვადით - 2026 წლის ჩათვლით.

რაც შეეხება დოკუმენტებს, აღნიშნული პროექტის ფარგლებში წარმოქმნილი ნარჩენების მართვის, მათ შორის საბოლოო განთავსების ან რეციკლირების შესახებ, და ინფორმაციას ბანაკის ტერიტორიაზე ნიადაგის ნაყოფიერი ფენის მოხსნის, დასაწყობებისა და მართვის შესახებ - აღნიშნული პროექტის ფარგლებში, კომპანიას არ მოეპოვება, მეტიც, აღნიშნული სამუშაოები არ საჭიროებდა გარემოსდაცვით შეფასებას, ვინაიდან ენებოდა არსებული განამაწილებელი ქსელის რეაბილიტაციას.

არსებული მდგომარეობის თვალსაზრისით, ამჟამად შპს „სმარტ სოლუშენს“ G-42 ობიექტზე აწარმოებს გამანაწილებელ ქსელზე წყალგამშვები ჰიდრანტების მოწყობის სამუშაოებს. მიმდინარეობს რკინაბეტონის სამუშაოები, კერძოდ: ჭების, არხისა და სხვა ნაგებობების მოწყობა და არხის გასწვრივ ტერიტორიის გაწმენდა ხე-ბუჩქნარისაგან. ხელშეკრულების თანახმად, სამუშაოების დასრულება გათვალისწინებულია 2026 წლის 10 ივნისს. თუმცა, სავარაუდოა, რომ სამუშაოები სრულად ვერ დასრულდება სარწყავი სეზონის დაწყებამდე. რაც შეეხება G-42-ის დარჩენილი 8-9 კმ მონაკვეთის სამომავლო რეაბილიტაციას, აღნიშნულთან დაკავშირებით, ამ ეტაპზე რაიმე სახის ინფორმაცია არ გაგვაჩნია.

7 მაისის N2690/01 წერილში აღნიშნული დამატებითი დეტალებისთვის, მივმართავთ კონტრაქტორ კომპანიას და გამოვითხოვთ მათ ხელთ არსებულ მასალებს, რაც ასევე გაზიარებული იქნება თქვენთან.

აქვე, გიგზავნით Wetransfer-ის ბმულს (KMZ და MDB ფაილს), რომელზეც ასახულია ქვემო სამგორის მარცხენა მაგისტრალური არხის გ-41 და გ-42 გამანაწილებლების უკვე რეაბილიტირებული და სარეაბილიტაციო მონაკვეთები. <https://slink.com/n9w6q9j>.

პატივისცემით,

გიგლა თაბაჩაშვილი


გენერალური დირექტორი

<https://edocument.ge/mea/public/#/2584-გ-2-202605201710>



Informal Translation of Letter from Georgian Amelioration to MEPA

Letter No: 3-2584

Date: 20/05/2026

To: Mr. Lasha Dolidze, Deputy Minister of Environmental Protection and Agriculture of Georgia

From: Gigla Tamazashvili, General Director, Georgian Amelioration LTD

Dear Mr. Lasha,

In response to the letter No. 2690/01 dated May 7 from the Ministry of Environmental Protection and Agriculture, regarding the implementation of an environmental audit in accordance with the safeguard policy requirements of the Asian Development Bank for the distributors G-41 and G-42 of the Kvemo Samgori left main canal, currently being rehabilitated by "Georgian Amelioration" LLC, we share the information and materials available to us.

Regarding the questions raised about waste management, we would like to inform you that, in accordance with Article 21 of the Waste Management Code of Georgia, inert waste suitable for backfilling operations or construction purposes may not be disposed of in a landfill if it is used for backfilling operations or construction purposes envisaged by the project, in agreement with the state or municipal authority. "Georgian Amelioration" LLC officially applied to the Mayor of Gurjaani Municipality to specify a specific location, based on which an area was allocated in the village of Naniani, at the so-called "dry ravine," 500 meters from the end of the village. According to the aforementioned article, this territory did not require the status of an inert waste landfill.

Furthermore, in accordance with Article 14 of the Waste Management Code of Georgia, the Waste Management Plan of "Georgian Amelioration" LLC is updated periodically, once every 3 years, or in the event of a change in the type or quantity of generated waste and substantial modifications in the processing procedures. The said plan was updated in 2024 and agreed upon with the Ministry of Environmental Protection and Agriculture of Georgia for a period of 3 years - inclusive of 2026.

As for documents concerning the management of waste generated within the framework of this project, including its final disposal or recycling, and information regarding the stripping, storage, and management of the fertile topsoil layer at the camp territory - the company does not possess such records within the scope of this project. Moreover, the aforementioned works did not require an environmental assessment, as they pertained to the rehabilitation of an existing distribution network.

In terms of the current situation, LLC "Smart Solution" is presently conducting works on the installation of water discharge hydrants on the distribution network at the G-42 facility. Reinforced concrete works are ongoing, specifically: the arrangement of wells, canals, and other structures, as well as clearing the territory along the canal from trees and bushes. According to the contract, the completion of works is scheduled for June 10, 2026. However, it is probable that the works will not be fully completed before the onset of the irrigation season. Regarding the future rehabilitation of the remaining 8-9 km segment of G-42, we do not have any information at this stage.

For the additional details mentioned in the May 7 letter No. 2690/01, we will address the contractor company to request the materials at their disposal, which will also be shared with you.

Additionally, we are sending you a WeTransfer link (KMZ and MDB files) that depicts the already rehabilitated and pending rehabilitation sections of the G-41 and G-42 distributors of the Kvemo Samgori left main canal: [Link provided in the original document].

Sincerely,

(Signed/Electronically Verified)

Gigla Tamazashvili

General Director

Official Request Letter submitted to the Construction Contractor (LLC Smart Solution)

შპს „სმარტ სოლუშენს“ (LLC Smart Solution)

ასლი: საქართველოს გარემოს დაცვისა და სოფლის მეურნეობის სამინისტროს

ბატონო/ქალბატონო,

ქვემო სამგორის სარწყავი სისტემის რეაბილიტაციის პროექტის (არეალები 5 და 6) ფარგლებში მიმდინარე გარემოსდაცვითი აუდიტის (EDDR) ფარგლებში, აზიის განვითარების ბანკის (ADB) უსაფრთხოების პოლიტიკის შესაბამისად, გთხოვთ **15 სამუშაო დღის ვადაში** მოგვაწოდოთ შემდეგი დოკუმენტური მტკიცებულებები 2024-2026 წლების სამუშაო პერიოდისთვის:

1. ნარჩენების მართვა: ნარჩენების ტრანსპორტირებისა და განთავსების დამადასტურებელი დოკუმენტები (მაგალითად მიღება-ჩაბარები აქტები და სხვა). განსაკუთრებული ყურადღება მიაქციეთ აზბესტის შემცველი მასალების ACM (ასეთის არსებობის შემთხვევაში) და სხვა სახიფათო ნარჩენების დამუშავებასა და განადგურებასთან დაკავშირებულ ჩანაწერებს/დოკუმენტებს.
2. ნიადაგის დაცვა: ნიადაგის ნაყოფიერი ფენის მოხსნისა და შენახვის დამადასტურებელი აქტები/ოქმები.
3. ბანაკის მოწყობა: ბანაკის ტერიტორიის გეგმა-ნახაზები, სადაც მითითებული იქნება საწვავის საცავის, ნარჩენების სეპარაციის და სეპტიკური ავზების განლაგება. სამშენებლო ბანაკის მოწყობაზე საიჯარო ხელშეკრულება;
4. წყლისა და მტვრის მართვა: მტვრის ჩასახშობად წყლის გამოყენების ჩანაწერები და წყლის წყაროს დაბინძურების თავიდან ასაცილებლად მიღებული ზომების ჩანაწერები;
5. შრომის უსაფრთხოება და გარემოს დაცვა: ინციდენტების რეგისტრაციის ჟურნალი, ასევე პერსონალის ეკიპირების (პირადი დაცვის საშუალებები) გაცემის აღრიცხვის ფურცლები;
6. პერსონალის მომზადება: თანამშრომლებისთვის ჩატარებული გარემოსდაცვითი და უსაფრთხოების ინსტრუქტაჟის ოქმები;
7. საზოგადოებასთან ურთიერთობა: ადგილობრივ მოსახლეობასთან ჩატარებული კონსულტაციების ოქმები და ჩანაწერები.
8. საჩივრების მართვის მექანიზმი: წარმოადგინეთ საჩივრების რეგისტრაციის ჟურნალი, სადაც ასახული იქნება ინფორმაცია ადგილობრივი მოსახლეობის მხრიდან დაფიქსირებული პრეტენზიების შესახებ (მაგალითად: მტვერი, ხმაური, გზების ჩახერგვა და სხვა). ჟურნალი უნდა მოიცავდეს ჩანაწერებს საჩივრების მიღების თარიღის, შინაარსისა და მათზე რეაგირების შესახებ.
9. შესრულებული სამუშაოები: სამუშაოების დასრულების ამსახველი ნახაზები. ასევე ნებისმიერი დოკუმენტაცია და ფოტომასალა, რომელიც ადასტურებს, რომ სამშენებლო ობიექტები გაიწმინდა და აღდგა პირვანდელ მდგომარეობაში;

პატივისცემით,

შპს „საქართველოს მელიორაცია“

Official Request Letter submitted to the Agency of Protected Areas (APA)



გარემოს დაცვისა და სოფლის
მეურნეობის სამინისტრო

09 ივნისი 2026

მარშალ გელოვანის გამზ. N34
0159 თბილისი, საქართველო
+995 32 237 80 13
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სსიპ დაცული ტერიტორიების სააგენტოს თავმჯდომარეს

ბატონო ოთარ ედიშერაშვილს

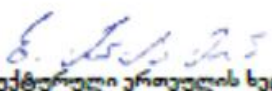
ბატონო ოთარ,

გაცნობთ, რომ აზიის განვითარების ბანკის (ADB) მხარდაჭერით მიმდინარეობს ქვემო სამგორის სარწყავი სისტემის მარცხენა მაგისტრალური არხის რეაბილიტაციის პროექტის G-41 და G-42 გამანაწილებლების (ე.წ. არხალები 5 და 6) გარემოსდაცვითი აუდიტი. აღნიშნული გამანაწილებლების რეაბილიტაცია ხორციელდება შპს „საქართველოს მელიორაცია“-ს მიერ. აღნიშნული პროექტი მდებარეობს საგარეოსა და გურჯაანის მუნიციპალიტეტებში, ყორულის ადგილობრივი სიახლოვეს. საერთაშორისო გარემოსდაცვითი სტანდარტების (ADB SPS 2009) შესაბამისად, აუცილებელია პროექტის ზემოქმედების არეალის სიზუსტით განსაზღვრა დაცული ტერიტორიების საზღვრებთან მიმართებით. აღნიშნულიდან გამომდინარე, გთხოვთ მოგვაწოდოთ შემდეგი ინფორმაცია:

1. კარტოგრაფიული მონაცემები - მარიამეერის სახელმწიფო ნაკრძალის, ციე-გომბორის ადგილობრივი, ყორულის ადგილობრივისა და იერის ადგილობრივი დაზუსტებული საზღვრები Shape ან KMZ ფორმატში (WGS84 კოორდინატთა სისტემაში).
2. შესაბამისობის დადასტურება - წერილს თან ერთვის „საქართველოს მელიორაციის“ მიერ, N გ-2584 (20/05/2026) წერილით მოწოდებული G-41 და G-42 არხების რეაბილიტირებული და სამომავლოდ დასასრულებელი მონაკვეთების კოორდინატები (KMZ და MDB ფაილები). გთხოვთ, თქვენს ხელთ არსებული მონაცემების საფუძველზე ოფიციალურად დაგვიდასტუროთ, რომ დაცული ტერიტორიების საზღვრებში და მის უშუალო სიახლოვეს (კერძოდ, G-42 არხის დარჩენილ 8-9 კმ-იან მონაკვეთზე) რაიმე სახის სამუშაოები ჯერ არ შესრულებულა.

დამატებით გაცნობებთ, რომ 2026 წლის 24 აპრილს ჩატარებული საცელე ვიზიტებისა და ფოტოფიქსაციის საფუძველზე, G-42-ის გამანაწილებლის დაცული ტერიტორიასთან ახლოს მდებარე მონაკვეთზე რაიმე სახის სამშენებლო ინტერვენცია არ დასტურდება. თქვენი ოფიციალური დასტური კრიტიკულად მნიშვნელოვანია აუდიტის ანგარიშის წარმატებით დასრულებისთვის.

პატივისცემით,
ბექა ქაძაშია


პირველადი სტრუქტურული ერთეულის ხელმძღვანელი
მელიორაციისა და მიწის შართვის პოლიტიკის დეპარტამენტი

<https://edocument.ga/mca/public/#/3368-01-2-202608091450>



To Mr. Otar Edisherashvili

The Chairman of the Agency of Protected Areas of Georgia (APA)

09 June 2026

N 3368/01

Mr. Otar, we would like to inform you that, with the support of the Asian Development Bank (ADB), an environmental audit is currently being conducted for the rehabilitation project of the distribution canals G-41 and G-42 (Areas 5 and 6) of the Left Main Canal of the Lower Samgori Irrigation System. The rehabilitation of these networks is being implemented by Georgian Amelioration LLC. The project is located within the Sagarejo and Gurjaani Municipalities, in the vicinity of the Korugi Managed Reserve.

In accordance with the international environmental standards (ADB Safeguard Policy Statement, 2009), it is necessary to accurately determine the project's area of influence in relation to the boundaries of protected areas. Therefore, we kindly request that you provide the following information:

1. Cartographic Data – Updated boundary data for Mariamjvari State Nature Reserve, Tsiv-Gombori Managed Reserve, Korugi Managed Reserve, and Iori Managed Reserve in Shape (SHP) or KMZ format, using the WGS84 coordinate reference system.
2. Confirmation of Compliance – Attached to this letter there are the coordinates of the rehabilitated sections and the sections yet to be completed of the G-41 and G-42 canals (KMZ and MDB files), provided by Georgian Amelioration LLC under Letter No. G-2584 dated 20 May 2026. Based on the information available to your Agency, we kindly request your official confirmation that no works of any kind have yet been carried out within the boundaries of the protected areas or in their immediate vicinity, particularly along the remaining 8–9 km section of the G-42 canal.

In addition, we would like to inform you that, based on field visits and photographic documentation conducted on 24 April 2026, no evidence of construction activities or other interventions was observed on the section of distribution canals G-42 located near the protected area. Your official confirmation is critically important for the successful completion of the environmental audit report.

Respectfully,

Beqa Dzadzamia

Head of Division

Department of Irrigation and Land Management Policy

Correspondence with Gurjaani Municipality regarding inert waste disposal (October 2020)



შპს საქართველოს მელიორაცია
Georgian Amelioration LTD

N გ-3056
22/09/2020

3056-გ-2-202009221749



გურჯაანის მუნიციპალიტეტის მერს

პატონ პრჩილ ხანდამაშვილს

პატონო პრჩილ,

მოგახსენებთ, რომ შპს „საქართველოს მელიორაცია“ მუშაობს ქვემო სამგორის სარწყავი სისტემის მარცხენა მაგისტრალური არხის რეაბილიტაციის (III ეტაპი) და „ქვემო სამგორის სარწყავი სისტემის მარცხენა მაგისტრალური არხის I რიგის გ-42-ის და მისი II რიგის გამანაწილებლების რეაბილიტაციის“ დეტალურ საინჟინრო პროექტებზე. ქვემო სამგორის სარწყავი სისტემის აღნიშნული მონაკვეთი გადის გურჯაანის მუნიციპალიტეტის სოფლებზე - ვაჭრეთი, მელაანი, არაშენდა, ქოდალო.

საპროექტო-საბარჯთაღრიცხვო დოკუმენტაციის დამუშავების პერიოდში, აუცილებლობას წარმოადგენს დემონტირებული სამშენებლო ნაგვის და არხიდან ამოღებული დანალექი გრუნტის ნაგავსაყრელაშდე ზიდვის მანძილის დაზუსტება.

გთხოვთ, მიგვითითოთ ადგილი კილომეტრების მითითებით, დანალექი გრუნტის და დემონტირებული სამშენებლო ნარჩენების განსათავსებლად.

პატივისცემით,

დავით წითლიძე

გენერალური დირექტორი



0114, ქ.თბილისი, გ. გულუას ქ. N6 ტელ: (995 32) 2 001000
Georgia, Tbilisi, G. Gulua str. N6 Tel: (995 32) 2 001000
info@ag.ge www.ag.ge

Informal Translation of Letter from Georgian Amelioration to Gurjaani Municipality

Letter No: 8-3056

Date: 22/09/2020

To: Mr. Archil Khandamashvili, Mayor of Gurjaani Municipality

From: Davit Tsitlidze, General Director, Georgian Amelioration LTD

Dear Mr. Archil,

We would like to inform you that "Georgian Amelioration" LLC is working on the detailed engineering designs for the "Rehabilitation of the Left Main Canal of the Kvemo Samgori Irrigation System (Stage III)" and the "Rehabilitation of the I-order G-42 and its II-order distributors of the Left Main Canal of the Kvemo Samgori Irrigation System". This section of the Kvemo Samgori irrigation system passes through the villages of Gurjaani Municipality - Kachreti, Melaani, Arashenda, and Kodalo.

During the preparation of the design and cost-estimate documentation, it is necessary to clarify the transport distance to the disposal site for the dismantled construction debris and sedimentary soil removed from the canal.

Please indicate a location, providing the mileage distance, for the disposal of the sedimentary soil and dismantled construction waste.

Sincerely,

Davit Tsitlidze

General Director



გურჯაანის მუნიციპალიტეტის მერია
City Hall of Gurjaani Municipality



ქ.გურჯაანი, ნონეშვილის გამზ. #13/Gurjaani, Noneshvili St.#13 ინდექსი / Index : 1500 ტელ / Tel: (0353 220004)
საიდენტიფიკაციო კოდი / Cap. Code: 227765022 ელ.ფოსტა/ Email: info@gurjaani.gov.ge



KA000050389915920

№ 9242-გ

27 / ოქტომბერი / 2020 წ.

შპს საქართველოს მელიორაციის
გენერალურ დირექტორს
დავით წითლიძეს

თქვენი 2020 წლის #გ-3056 წერილის პასუხად გაცნობებთ, რომ სარწყავი სისტემის რეაბილიტაციისას დემონტირებული სამშენებლო ნაგვის და ამოღებული დანალექი გრუნტის დასაფარელად გამოყოფილია ტერიტორია სოფელ ნანიანში ე. წ. მშრალ ხევზე სოფლის ბოლოდან 500მ-ში.

გურჯაანის მუნიციპალიტეტის მერის
მოადგილე

ხელმოწერა/სტამპი
შტამბა/სტამპი
ელ.ფოსტა/ელ.ფოსტა



სიმონ ქოჩორაშვილი

Informal Translation of Letter from Gurjaani Municipality to Georgian Amelioration

Letter No: 9242-g

Date: 27/10/2020

To: Davit Tsitlidze, General Director, Georgian Amelioration LTD

From: Simon Kochorashvili, Deputy Mayor of Gurjaani Municipality

Issuing Authority: City Hall of Gurjaani Municipality

In response to your letter No. g-3056 of 2020, we inform you that for the purpose of disposing dismantled construction debris and excavated sedimentary soil generated during the rehabilitation of the irrigation system, a territory has been allocated in the village of Naniani, at the so-called "dry ravine," 500 meters from the end of the village.

(Signed/Stamped Electronically)

Simon Kochorashvili

Deputy Mayor of Gurjaani Municipality

Annex 3. Preliminary meeting with GA (February 2026)



Annex 4. Key questions asked to the Korughi Nature Reserve Administration

- According to the available maps, the rehabilitation is taking place very close to the border of the reserve. Has the administration recorded any placement of equipment or materials inside the protected area?
- Where does the exact demarcation line in the field pass and how is it controlled during the construction (rehabilitation) process?
- Was there any excessive noise or dust impact on the inhabitants of the reserve (especially birds) during the construction process?
- Have there been any cases of unauthorized felling of trees or damage to vegetation in the vicinity of the reserve?
- Has the spread of invasive species been recorded due to the impact of construction work?
- Has the contractor used the water resources available in the reserve for technical purposes?
- Has there been any record of construction waste or wastewater entering the Iori riverbed, which is part of the reserve?
- During the course of the project, have the rangers drawn up a protocol on any environmental violations?
- Was there a conflict between the builders and the administration over some technical issue?

Annex 5. Preliminary meeting with Korughy Nature Reserve Administration (March 2026)



Annex 6. Photo Documentation of Community Meeting process (April 2026)



- To what extent did you have access to irrigation water during the rehabilitation process?
Was the schedule adhered to?
- How do you currently assess the water supply situation in the rehabilitated sections?
- Were there any obstructions on the roads leading to your plots due to the movement of equipment?
- Did you know who to contact if you had any complaints during the construction?
- Have you ever had a complaint (officially or verbally) and how quickly was it responded to?
- Did you have information about the project timeline and planned works?
- From your observations, did you notice any disturbance of wild animals or disruption of their migration during the works?
- Have you noticed any pollution of the Iori River with construction waste or wastewater?

Annex 8. Areas 5 and 6 site visit in 10 December 2025

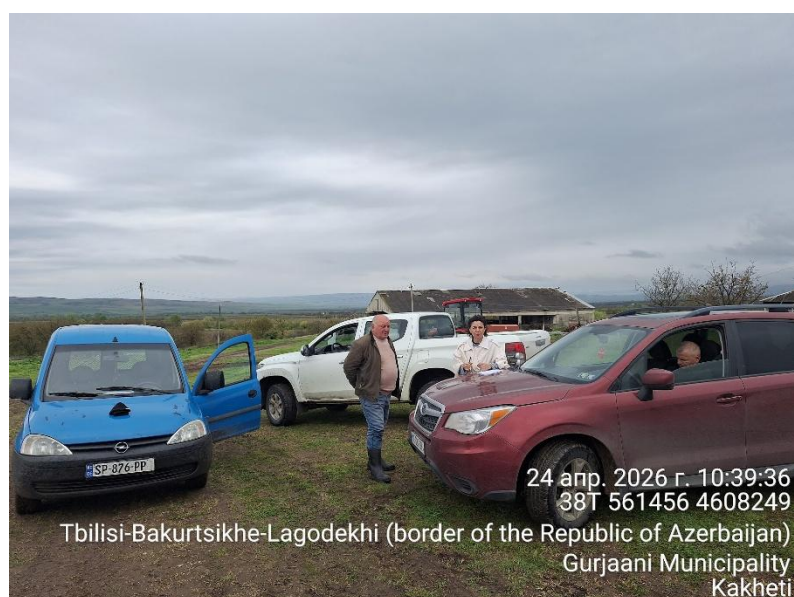




Annex 9. Areas 5 and 6 site visit in 24 April 2026







Annex 10. Meeting Minutes Template for future meetings

Minutes of Meeting #____

Project: Climate-Smart Irrigation Sector Development Program (EDDR - Areas 5 and 6)

Date: [-----]

Location: [e.g. Village Hall / Farmer's Plot]

Topic: Discussion of Environmental and Social Issues (G-41/G-42)

Issues discussed:

1. Informing the population about the progress of the project.
2. Environmental impacts (dust, noise, waste) arising during rehabilitation.
3. Issues related to land ownership and water supply.

Key findings and opinions expressed:

- [Eg: The population noted that dust suppression was not intensive during the construction of G-42.]
- [Eg: Farmers expressed satisfaction with the improvement in water supply.]

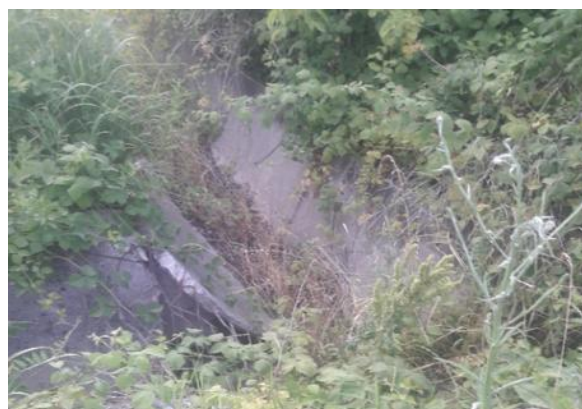
Decisions / recommendations:

- v. [Eg: An expert will verify the location of waste disposal near the camp.]

List of meeting participants

#	Name, surname	Status (e.g. local, farmer, trustee)	Contact Information	Signature
1.				
2.				
3.				
4.				
5.				
6.				
7.				

Annex 11. Photos of the Area 5 and 6 before and after rehabilitation



Condition of the irrigation system in Areas 5 and 6 before rehabilitation



Condition of the irrigation system of Areas 5 and 6 after rehabilitation (December, 2025)

Annex 12. Biodiversity Mitigation Measures and Compliance Protocol

This protocol outlines the mandatory environmental and biodiversity safeguards that must be incorporated into the Site-Specific Environmental Management Plan (SSEMP) by the Construction Contractor. These mitigation measures are fully consistent with the mitigation strategy defined in the IEE for Areas 1, 2, 3, and 4.

1. Vegetation Protection and Habitat Management

- **Personnel Instruction:** Before starting works, all staff must undergo mandatory training on vegetation protection and biodiversity awareness.
- **Minimization of Removal:**
 - Construction activities shall be strictly limited to a corridor not exceeding 5–8 meters in width.
 - The borders of the construction corridor and traffic routes must be accurately staked out and marked to prevent unauthorized damage.
 - No mature trees (>15 cm DBH) shall be removed without written approval from the Engineer and the Supervising Environmental Specialist.
- **Topsoil Management:** Topsoil shall be stripped, stored separately, and reused for site reinstatement.
- **Red-Listed Species:**
 - If Red-Listed species are encountered, works must cease immediately. A qualified botanist shall assess the specimen in consultation with the Ministry of Environmental Protection and Agriculture.
 - Any authorized cutting of Red-Listed species requires compensation plantings at a minimum ratio of 1:3 using native species, with a minimum 80% survival target after two years.
 - All removals must comply with the "Georgian Law on the Red List and Red Book.

2. Fauna Protection Measures

- **Seasonal Restriction:** Vegetation clearing and site preparation are strictly prohibited from March 1st to June 30th to protect nesting birds, mammals, and reptiles.
 - In exceptional cases, clearing may proceed only after a pre-clearing survey by a qualified expert confirms the absence of active nests.
- **Animal Shelters:**
 - Any animal shelters identified in trees or the construction zone must be reported in writing to the Ministry of Environmental Protection and Agriculture.
 - Fauna encountered during works shall be given corridors to escape; construction personnel are strictly prohibited from harming or killing animals.
- **Trench Safety:**
 - Contractors shall inspect all open trenches every morning to remove trapped animals.
 - Trenches at ravine crossings must be backfilled within 24 hours.

- For trenches open longer than 24 hours, inclined planks or earth ramps (approx. 45°) shall be installed every 50 meters.
- Pipes and materials must be inspected before use to ensure no animals are sheltering inside.

3. Korughi Managed Reserve Buffer Protocols

- **Buffer Zone:** No temporary infrastructure (camps, storage yards, batching plants) shall be established within a minimum 1,000-meter buffer zone of the Korughi Managed Reserve (2,000 meters preferred).
- **Operational Coordination:**
 - The Contractor's environmental specialist must maintain permanent coordination with the Reserve Administration.
 - Weekly construction schedules and machinery deployment plans near the reserve must be submitted to the administration in advance.
- **Invasive Species Control:**
 - Importing topsoil or fill from external regions to reserve border zones is prohibited.
 - All machinery must undergo mandatory cleaning before entering sensitive border sectors.
- **Post-Construction Restoration:** All temporary areas must undergo meticulous cleanup and full sanitary restoration, followed by a post-construction inspection by an ecological specialist.

Annex 13. Asbestos Management Plan (Handling Protocol)

1. Background and Project Description

Asbestos is a fibrous mineral from the silicate group that was widely used in the 20th century for its tensile strength, thermal stability, and electrical resistance. The World Health Organization (WHO) considers all forms of asbestos to be carcinogenic to humans. The extraction, production, and use of asbestos-containing materials (ACM) continues in many parts of the world, although more than 60 countries around the world have banned the use of asbestos due to its health effects, including its association with asbestosis, asbestos-related lung cancer, and mesothelioma.

The modernization and rehabilitation of the Kvemo Samgori Secondary and Tertiary Irrigation Network (Package 4, covering Areas 5 and 6) involves the upgrading of existing infrastructure constructed during the Soviet era. Based on technical audits and site screenings, ACM is expected to be encountered primarily during earthworks and excavation activities, mostly in the form of buried, obsolete underground distribution pipes. These materials are historically associated with older drainage crossings, branch connections, and auxiliary distribution structures.

In addition to subsurface pipelines, minor incidental amounts of ACM could potentially be generated in the form of legacy roofing materials (slate) from older, dilapidated pump houses or auxiliary security sheds located near the alignment corridors.

While these buried asbestos-cement (AC) pipes are currently anticipated to be in a non-friable state, the planned mechanized excavation, trenching, and pipeline replacement works pose a potential risk of hazardous fiber release if the materials are crushed, damaged, or improperly handled. In strict accordance with the ADB Safeguard Policy Statement (SPS 2009) and the project's Environmental Assessment and Review Framework (EARF), this Asbestos Management Plan (AMP) has been customized to ensure that the identification, removal, transport, and disposal of ACM are conducted in a manner that eliminates risks to construction workers, local communities, and the surrounding environment. The plan establishes a "Zero-Tolerance" approach to uncontrolled asbestos disturbance and mandates the use of international best practices (e.g., wet-methods, localized isolation, and double-bagging) throughout the construction phase.

The primary objective of this AMP is to establish a rigorous operational framework for the safe identification, handling, and disposal of ACM. Specific operational objectives include:

- To prevent the release and inhalation of airborne asbestos fibers during excavation, handling, cutting, removal, and transport activities.
- To ensure all mitigation and management activities fully align with the Government of Georgia's hazardous waste regulations and the ADB Safeguard Policy Statement (SPS 2009).
- To provide clear, non-negotiable protocols for the mandatory use of specialized Personal Protective Equipment (PPE) and appropriate non-powered tools by the contractor's personnel.
- To define a secure, transparent "cradle-to-grave" pathway for all asbestos waste, from the initial point of generation/excavation to an officially licensed and approved hazardous waste disposal facility in Georgia.
- To establish immediate, legally compliant emergency response procedures in the event of accidental pipe breakage, cracking, or the incidental discovery of unmapped ACM during construction.
- To clearly define the distinct roles and responsibilities of the Construction Contractor, the Project Implementation Consultant (PIC), and the MEPA/GA Project Implementation Unit (PIU) in monitoring, auditing, and enforcing asbestos safety protocols.

This AMP is a dynamic safeguard document. It will be formally updated, localized, and finalized by the selected Construction Contractor prior to the commencement of any site-specific physical activities to include precise site logistics, finalized hazardous waste disposal agreements with licensed operators, and official staff health and safety certifications. Furthermore, the plan shall be subject to immediate revision and detailed operational adjustment in the event of any incidental or unexpected discovery of ACM during the construction phase, ensuring that unforeseen findings are managed with site-specific precision and in full coordination with the PIC and PIU.

2. Regulatory Framework, Standards and Protocols

All activities involving the management of Asbestos-Containing Materials (ACM) under this project will strictly adhere to both Georgian national legislation and international safety standards. The primary regulatory pillars are:

National Legislation:

- Waste Management Code of Georgia (2015): Defines ACM as hazardous waste and mandates specific requirements for its collection, transport, and disposal.
- Technical Regulation on "Safety Requirements for Working with Asbestos" (Government Resolution No. 145): Establishes the legal framework for protecting workers from asbestos-related risks during construction activities. This regulation sets out special requirements for the management and processing of ACM. This plan takes into account these requirements.
- Law of Georgia on Environmental Protection: Mandates the prevention of environmental pollution during infrastructure rehabilitation.

International Standards and ADB Requirements:

- ADB Safeguard Policy Statement (SPS 2009): Requires the application of pollution prevention and control technologies consistent with international good practices.
- World Health Organization (WHO) Guidelines: Recognizes all forms of asbestos as carcinogenic and provides the basis for the "Zero-Exposure" objective.
- EU Directive 2009/148/EC: On the protection of workers from the risks related to exposure to asbestos at work.

Mandatory Exposure Limits and Protocols:

- The project mandates that the concentration of airborne asbestos fibers must not exceed 0.1 fibers per cubic centimeter (0.1 f/cm³) as an 8-hour Time-Weighted Average (TWA). If friable asbestos is encountered or high-risk removal is required, air quality monitoring must be conducted by an independent certified laboratory to ensure compliance with the 0.1 f/cm³ threshold.
- The Construction Contractor is legally mandated to develop a comprehensive Waste Management Plan prior to the commencement of works, which must include a detailed section on ACM. This plan must be formally submitted to and approved by the MEPA. The PIC will ensure that all site-specific activities and disposal acts are strictly consistent with the MEPA-approved plan throughout the project duration.

3. Existing/Baseline Conditions

The project area primarily consists of an agricultural irrigation corridor where secondary and tertiary infrastructure was installed several decades ago. The baseline assessment for ACM is based on visual inspections and the historical context of the investment zones. The following site-specific conditions have been identified:

- Historically, asbestos-cement (AC) distribution pipes were normally laid parallel to local access roads, field service tracks, and farm boundary lines. Consequently, there is a

higher probability of encountering buried ACM during trenching and excavation works in sections adjacent to the main transport corridors leading towards the agricultural fields.

- In areas near local farms and legacy livestock facilities, there is a risk of encountering discarded or buried ACM (primarily broken roofing slate and old insulation materials) along the pipeline alignment corridors. These historical waste "hotspots" require specialized attention during the initial site clearing and topsoil stripping phases, prior to heavy mechanized excavation.
- Beyond official irrigation infrastructure, ACM is frequently present in the area as legacy asbestos-cement roofing sheets (slate). Local communities have used these materials for decades for roofing residential or auxiliary farm buildings, as well as for constructing makeshift fences, livestock pens, and boundary barriers within or near the project's Right of Way (ROW). The likelihood of encountering such waste is high near local villages and farms within the project areas.
- While deeply buried underground pipes generally remain non-friable (solid and intact), any legacy ACM found near farms or used in makeshift fences is often highly weathered, degraded, and brittle due to decades of exposure to elements. This significantly increases the risk of hazardous fiber release if disturbed or crushed by heavy construction machinery.
- A final pre-construction safeguard survey will be conducted to map these high-probability areas across the project footprints. This will ensure that the Contractor's environmental and safety teams are on high alert, with wet-method equipment standby, during earthworks and trenching in these specific locations.

4. Risk Assessment

The risk assessment for ACM is primarily focused on human health exposure and environmental contamination. The level of risk is directly linked to the proximity of receptors and the method of handling.

- **Primary Receptors (Workers):** The highest risk is associated with occupational exposure. Workers involved in excavation, manual handling, and transport are at direct risk of inhaling airborne fibers if safety protocols are not strictly followed. This is the project's most critical safety concern.
- **Secondary Receptors (Local Community):** Since the canal primarily passes through unpopulated or sparsely populated agricultural lands, the risk of exposure to the general public is considered low. The distance between active work zones and residential areas provides a natural buffer.
- **Environmental & Long-term Risks:** While immediate public exposure is low, the long-term presence of unmanaged ACM on-site poses a significant threat. Leaving ACM fragments scattered or improperly stored could lead to: Soil contamination; Fiber release during future maintenance works; Accidental disturbance by local farmers; Potential secondary use of discarded materials by locals.

Risk Levels by Activity:

- **Low Risk:** General site activities in areas where ACM remains buried (in-situ) and undisturbed.
- **Medium Risk:** Manual excavation around AC pipes and clearing of surface debris (broken slate), provided that wet methods are used.
- **High Risk:** Mechanical excavation near roads, cutting or crushing of pipes, and dredging of "weathered" debris near farms.

The risk strategy focuses on protecting workers through PPE and strict protocols, while eliminating public and environmental risks through immediate containment and scheduled disposal.

5. Roles and Responsibilities

To ensure the successful implementation of the AMP, the following roles and responsibilities are defined:

Construction Contractor:

- Directly responsible for the safe handling, removal, transport, and disposal of all ACM encountered within the project zone.
- Must appoint a qualified Environmental Specialist/Safety Officer to supervise ACM-related activities on-site.
- Responsible for providing all necessary Personal Protective Equipment (PPE) and ensuring that workers are trained in asbestos-safe working methods.
- Must prepare and submit the Site-Specific Waste Management Plan (including the ACM section) to MEPA for approval prior to the start of works.
- Maintains a detailed log of all ACM encountered, including volumes, locations, and disposal manifests.

Project Implementation Consultant (PIC):

- Responsible for the monthly monitoring and supervision of the Contractor's compliance with this AMP.
- Has the authority to suspend works (Stop-Work Authority) if ACM is being handled in an unsafe manner or if inappropriate equipment is used.
- Verifies and signs off on the final disposal certificates provided by the hazardous waste facility.

Project Implementation Unit (PIU):

- Provides overall project oversight and ensures alignment with ADB Safeguard Policies.
- Facilitates high-level coordination with state agencies (MEPA, Solid Waste Management Company) if required.
- Reviews monthly environmental monitoring reports to ensure that ACM management is being documented correctly.

6. Permissible Exposure Limits (PEL)

To ensure the safety of workers and the surrounding environment, the project adheres to the following exposure standards:

- **Exposure Limit:** The concentration of airborne asbestos fibers must not exceed 0.1 fibers per cubic centimeter (0.1 f/cm³) calculated as an 8-hour Time-Weighted Average (TWA).
- **Compliance:** This limit is consistent with both Government of Georgia Resolution No. 145 and international occupational health standards (WHO/EU).
- **Action Level:** If there is a suspicion of high dust generation or if ACM is accidentally crushed, the PIC may require air quality monitoring to verify that levels remain below this PEL.

7. ACM Management Process

This section outlines the step-by-step operational procedures for managing asbestos-containing materials:

7.1. Chance Find Protocol & Emergency Response

Chance Find Procedure (For New Discoveries):

- **Immediate Stop-Work:** In the event of discovering suspected ACM (e.g., previously unidentified pipes or buried slate), all activities within a 10-meter radius must cease immediately. The suspected zone must be cordoned off using hazard warning tape (red/white) to prevent unauthorized access and accidental disturbance.
- **Cordoning & Signage:** The area must be isolated with hazard tape and "Authorized Access Only" signs. If the discovered material appears damaged or is being disturbed by

wind/water, it must be temporarily covered with a weighted plastic sheet or kept damp with a fine water mist until a formal removal plan is activated.

- **Notification:** The Contractor's Environmental Officer and the PIC must be notified instantly. Works may only resume after the PIC provides written clearance.
- **Verification:** GPS coordinates and photographs must be taken to document the find for the monthly monitoring report.

Emergency Response (For Accidental Breakage or Scattering):

- **Accidental Disturbance:** If an AC pipe is accidentally broken or crushed by machinery, the operator must shut down the equipment immediately to avoid further agitation of dust.
- **Dust Suppression:** A fine water mist must be applied to the broken material and the immediate surrounding soil to "lock" any released fibers.
- **Decontamination:** The affected equipment (excavator bucket, etc.) must be wet-cleaned before being moved from the exclusion zone. All cleaning materials (rags, etc.) must be disposed of as hazardous waste.

7.2. ACM Removal Protocol

- Every worker involved in ACM removal, handling, or site preparation within the exclusion zone must be fully equipped with the required Personal Protective Equipment (PPE), including FFP3 respirators and disposable coveralls, as detailed in Section 8 of this plan.
- **Wetting (Pre-treatment):** Before any physical contact, all ACM (pipes or slate) must be thoroughly sprayed with water or a wetting agent. The material must remain saturated throughout the removal process to prevent fiber release.
- Mechanical excavation is prohibited within 0.5 meters of suspected AC pipes. The final exposure of the pipes must be done manually using hand tools.
- Every effort must be made to remove AC pipes in their original lengths. Deliberate breaking or crushing for easier handling is strictly forbidden.

7.3. ACM Handling Protocol

- Workers must handle ACM with care, avoiding dropping or throwing materials.
- All tools used during the removal (shovels, saws) must be cleaned with wet rags immediately after use. The rags must be treated as asbestos waste and disposed of accordingly.
- A basic decontamination station (water and soap) must be available for workers to clean their PPE and hands before leaving the active work zone.

7.4. ACM Storage Protocol

- Removed ACM must be double-wrapped in 200-micron polyethylene sheeting and sealed with industrial adhesive tape (goose-neck seal).
- All packages must be labeled with: "DANGER: CONTAINS ASBESTOS. DO NOT INHALE DUST."
- Wrapped ACM must be stored in a lockable, covered container (skip) or a fenced, shaded area to prevent accidental damage and unauthorized access. The storage area should be clearly marked with warning signs.

7.5. ACM Stabilization and Treatment

- During temporary storage, if a package is found to be torn or damaged, it must be immediately over-wrapped with an additional layer of polyethylene.
- Under no circumstances shall ACM be used as fill material or for any other purpose on-site. All identified ACM must be stabilized for final disposal.

8, Personal Protective Equipment (PPE) Requirements

All personnel entering the exclusion zone or involved in the handling of ACM must be equipped with the following mandatory PPE. The Contractor is responsible for the provision, maintenance, and correct disposal of all protective gear.

- **Respiratory Protection:**
 - **FFP3 (N99) Respirators:** Minimum requirement for all workers in the ACM zone. High-efficiency filters are essential to capture microscopic asbestos fibers.
 - **Half-face or Full-face Masks (with P3 filters):** Required for high-risk activities such as manual excavation or handling of broken slate.
- **Body Protection:**
 - **Disposable Coveralls (Type 5/6):** Single-use, hooded coveralls designed to resist hazardous dust and particles. They must be anti-static and breathable.
 - **Hood up:** The hood of the coverall must be worn over the respirator straps to ensure no skin/hair exposure.
- **Hand and Foot Protection:**
 - **Gloves:** Disposable nitrile gloves or heavy-duty rubber gloves. If heavy-duty gloves are used, they must be thoroughly wet-cleaned after each use.
 - **Footwear:** Laceless rubber boots (wellies) are preferred as they are easy to decontaminate. If safety boots with laces are worn, they must be covered with disposable overshoes.
- **Eye Protection:**
 - **Safety Goggles:** Tight-fitting goggles to protect eyes from dust, especially during windy conditions or when using water mists.
- **Hygiene and Decontamination Gear:**
 - **Cleaning Rags and Water:** For "wet-wiping" PPE and tools before leaving the work zone.
 - **Waste Bags:** Dedicated hazardous waste bags for the disposal of used PPE at the end of each shift.

9. List of Approved ACM Handlers and Disposal Facilities

To ensure full compliance with Georgian legislation and ADB standards, all ACM waste generated by the project must be managed through officially licensed entities.

- **Authorized Disposal Facilities:**
 - **Solid Waste Management Company of Georgia (SWMCG):** The primary authority for hazardous waste disposal. ACM must be transported to a dedicated hazardous waste cell approved by the SWMCG at the time of disposal.
 - **Licensed Private Contractors:** Alternatively, the Contractor may use private companies that hold a valid license from the MEPA for the collection, transport, and disposal of hazardous waste.
- Before the commencement of ACM removal, the Contractor must provide the PIC with a copy of the valid license/permit of the selected disposal facility or the formal agreement with the SWMCG.
- The disposal facility must be capable of providing a formal receipt/certificate confirming the safe burial of the specific volume of ACM delivered.
- Only vehicles and companies registered in the MEPA Electronic Waste Management System are permitted to transport ACM. Each shipment must have a unique tracking number generated through this system.

Specific Disposal Action for the Identified ACM (≈0.5 m³):

The Contractor will submit an official, quantified request to the Solid Waste Management Company of Georgia (SWMCG) or contract a MEPA-licensed hazardous waste operator. The SWMCG will legally designate the specific regional landfill and prepare the dedicated hazardous waste trench (cell) for encapsulation. The exact name of the receiving facility and the formal, finalized handover manifest (tracking the waste from the camp to the designated cell) will be submitted to the PIU/ADB as definitive proof of final and safe disposal.

10. Health and Safety Protocol

To complement the technical handling procedures, the following occupational health and safety rules apply:

- Before starting works in suspected ACM areas, the Contractor must conduct a Toolbox Talk specifically focused on asbestos risks and the requirements of this AMP.
- Eating, drinking, or smoking is strictly prohibited within the ACM exclusion zone to prevent accidental ingestion of fibers.
- Workers must wash their hands and faces with soap and water before breaks and at the end of each shift.
- The work zone must be marked with visible warning signs: "CAUTION: ASBESTOS WORK AREA - AUTHORIZED PERSONNEL ONLY."
- In case of accidental injury (cuts/scrapes) in an ACM zone, the wound must be immediately cleaned and covered to prevent fiber entry into the bloodstream.

11. Training

As outlined in the project's overarching Environmental Training Plan, specific capacity building regarding asbestos is mandatory for the site personnel:

- **ACM Awareness Training:** This training is focused on the identification of potential ACM during earthworks and the practical execution of emergency "stop-work" procedures.
 - **Target Group:** Mandatory for all Earthworks teams (excavator operators, laborers) and Site Supervisors.
 - **Timeline:** The training must be conducted once, before earthworks commence. It is strictly integrated into the General Induction Training for all new staff assigned.
 - **Key Topics:** How to recognize potential ACM (pipes and slate); The health risks associated with asbestos fiber inhalation; Correct use and disposal of PPE; Step-by-step walkthrough of the Chance Find Protocol.
- **Daily Reinforcement:** In addition to the formal induction, Daily Toolbox Talks will be held at the specific locations where high-probability ACM encounters are expected (e.g., road-parallel excavations).
- **Records:** The Contractor must maintain an attendance log for the induction sessions, specifically highlighting the ACM awareness module, which will be verified by the PIC during monthly monitoring.

12. Reporting and Monitoring

This section defines the verification process to ensure the AMP is being followed in the field.

Contractor's Self-Monitoring:

- The Contractor's Environmental Officer must conduct daily site inspections during ACM handling and record findings in a dedicated ACM Logbook.
- The logbook must track the volume of ACM removed, its temporary storage status, and the PPE compliance of the workers.

PIC Supervision (Monthly Monitoring):

- The Project Implementation Consultant (PIC) will conduct formal monthly monitoring visits to verify the Contractor's compliance with this AMP.
- The PIC will audit the Contractor's ACM records, inspection logs, and disposal certificates.
- The PIC has the authority to conduct ad-hoc inspections if high-risk activities are reported.

Monthly Environmental Reports:

- The results of ACM management (including any chance finds, volumes removed, and disposal status) must be included as a dedicated section in the Monthly Environmental Monitoring Report submitted to the PIU.

Disposal Documentation:

- Final verification of successful ACM management is only achieved when the Certificate from the licensed landfill is submitted and verified by the PIC.

Annex 14. Chance Find Protocol

1. Background and Application This Protocol applies to the modernization and rehabilitation of the secondary and tertiary irrigation network within Areas 5 and 6 (G-41 and G-42) of the Kvemo Samgori Left Main Canal Irrigation Scheme. While the project is located within a heavily modified rural agricultural landscape, there is a persistent baseline possibility of encountering subsurface archaeological artifacts or historical structures during deep excavation works. The finds could be tools used in ancient agriculture, ceramics, military equipment, or structural remnants. Every care must be taken not to destroy these during excavations.

2. Immediate Actions and Stop-Work Authority

- Excavator operators and site workers must be briefed during site inductions to be vigilant for buried features.
- When historic features such as walls, brick constructions, or artifact concentrations are encountered during mechanical excavation, **all work must stop immediately**.
- The Construction Contractor must immediately inform the Project Implementation Unit (PIU) and the Project Implementation Consultant (PIC) engineers on-site so that the discovery can be inspected at the first opportunity.

3. Contractor's On-Site Instructions

- As soon as a chance find is recovered, the Contractor must immediately halt excavation activity near the point of recovery and secure the area to prevent unauthorized access or accidental damage.
- Under the direct supervision of the PIU/PIC engineers, the Contractor shall proceed with preliminary cleaning and photographic documentation.

4. Documentation and Record Keeping

- **Cleaning:** When a feature/chance find is discovered, it must be defined by careful manual cleaning. Roots and loose dirt must be carefully cleared away. The section or trench base should also be cleaned back for a small distance around the feature.
- **Record Photography:** Once clean, high-quality, geo-tagged photographs must be taken – including vertical, face-on shots, and general shots showing the feature's position in relation to surrounding landscapes. Photographs must be catalogued (date, exact GPS location, direction of shot).
- **Drawn Record:** A drawn record should be made, including:
 - *General location record:* Measuring its position and orientation within the project site.
 - *Record drawings:* Detailed drawings in plan and section/profile, marking the extent (edges) of the feature, the existing ground surface level, and the top and base elevations. Perspective sketches and explanatory notes should be added if necessary.

5. Handling Historic Objects

- If loose artifacts or historic objects are found during clearance and excavation, they must be recovered carefully and kept in a secure, designated place on-site.
- The exact place of discovery must be recorded. Each find should be given a unique ID number, and a corresponding tag must be tied to the object.
- A formal log of finds must be maintained (Find No., exact coordinates, date of discovery, and brief description).

6. PIU/Consultant Responsibilities and Legal Compliance

- In strict accordance with Article 70 of the **Law of Georgia on Cultural Heritage (2007)**, the PIU/Consultants must immediately inform the National Agency for Cultural Heritage Preservation of Georgia in writing.
- Photographs, GPS data, and record drawings must be attached to the official notification.

- In case of significant finds, the Ministry of Culture and Sports of Georgia must be notified within 48 hours.
- **Resumption of Works:** Construction works in the affected zone may only resume after an official, written permit is issued by the National Agency for Cultural Heritage Preservation.