**TERMS OF REFERENCE FOR CONSULTANCY SERVICES   
(SELECTION OF FIRMS)**

**Preparation of detailed technical design and cost estimation documents, along with the provision of author's supervision for the Seismic upgrades, energy efficiency improvements and reconstruction of “Karmir blur”, “Arshakunyats” and “Kanaker-Zeytun” health centers**

# GENERAL BACKGROUND

Yerevan, the capital of Armenia and home to over a third of the national population, has made strategic and institutional commitments toward sustainable energy development, energy efficiency (EE), and climate resilience. As the country's largest urban center and economic hub, Yerevan plays a critical role in Armenia’s broader energy and environmental policy landscape.

#### ****Strategic framework and policy commitments****

Yerevan has adopted several strategic plans that frame its energy and climate priorities:

* **Yerevan Green City Action Plan (GCAP)** (2020): Developed with support from the European Bank for Reconstruction and Development (EBRD), the GCAP identifies priority sectors—including energy, buildings, waste, and transport—with targeted measures to improve environmental performance and reduce emissions. The plan emphasizes retrofitting public buildings, advancing renewable energy use, improving public transport, and implementing energy-saving regulations.
* **Yerevan City Sustainable Energy Action Plan (SEAP)** (2010): In alignment with the EU’s Covenant of Mayors initiative, this plan outlined a roadmap to achieve a 20% reduction in greenhouse gas (GHG) emissions. It identified EE improvements in buildings, street lighting, and municipal services as key strategies, with implementation support from local and international partners.
* **Sustainable Energy and Climate Action Plan (SECAP)** (updated 2025, pending adoption): Following Yerevan’s renewed commitment under the **Covenant of Mayors for Climate and Energy**, the city set a more ambitious goal of **30% GHG reduction by 2030**, along with **climate adaptation** measures. The SECAP reflects an integrated approach that addresses both mitigation and resilience, incorporating updated baseline emission inventories and sectoral analyses.

The abovementioned documents were developed through participatory processes involving stakeholders, expert reviews, and public consultations, ensuring alignment with both local realities and international climate and energy frameworks.

In achieving some of the goals set by these documents Yerevan has benefited from substantial technical and financial support from the European Investment Bank (EIB), UNDP, European Bank for Reconstruction and Development (EBRD), EU Neighborhood Investment Platform, and the Eastern Europe Energy Efficiency and Environment Partnership (E5P).

#### ****1.2 Key Energy Efficiency Projects****

Improving energy efficiency in public buildings remains one of the most impactful areas for intervention in Yerevan:

* Yerevan Energy Efficiency Project (2017–ongoing): Focused on rehabilitating health centers through building envelope insulation, heating system upgrades, and energy-efficient lighting.
* Yerevan Energy Efficiency II Project (2024–ongoing): Supported by a €25 million loan from the EIB, a €10.1 million grant from the EU Neighborhood Investment Platform, and €2 million co-financing from the Yerevan Municipality, this project scales up earlier efforts to cover additional public buildings, including kindergartens and polyclinics. It is expected to significantly reduce energy consumption and GHG emissions, while improving indoor comfort and health standards.

Yerevan stands out in the region for its structured, multi-tiered approach to energy efficiency and climate action. The city’s integration of long-term planning (SECAP, GCAP), institutional commitments, and access to international financing mechanisms positions it as a model for sustainable urban energy transformation in Eastern Europe and the Caucasus. Sustained efforts in implementation, strengthened public-private cooperation, and effective monitoring will be essential to achieving Yerevan’s 2030 climate and energy goals.

#### ****Consultant Selection for Preparation of detailed technical design and cost estimation documents, along with provision of author's supervision****

**Yerevan Energy Efficiency II Project**

Within the framework of the **Yerevan Energy Efficiency II Project**, it is planned to implement energy efficient renovation (or improvements) and seismic upgrades **of 32 kindergartens and 6 polyclinics in Yerevan,** aligning their technical condition with the standards outlined in this section.

To ensure the high quality of design and reconstruction services, part of the funds allocated to this Programme will be used to procure services for the preparation of detailed technical design (hereinafter referred to as ‘design’) and cost estimation documentation, as well as for author’s supervision during the reconstruction phase.

A specialized consulting firm (hereinafter referred to as the “Consultant”) will be engaged to develop the design documents and carry out author’s supervision during the reconstruction of the aforementioned kindergartens and polyclinics.

**Two separate contracts will be signed with the selected Consultant**:

* For design works (Phase I and Phase II) - under a Lump-Sum Contract.
* For Author’s Supervision (Phase III) - under a Time-Based Contract.

The design services must be completed within **two hundred and ten (210) calendar days**, whereas the author’s supervision will be carried out alongside the reconstruction works until their completion.

The selection of the specialized Consultant will be conducted through a competitive process in accordance with the rules and procedures of the EIB *(«Guide to Procurement for projects financed by the EIB», March 2024)**[[1]](#footnote-1)*).

The Yerevan Municipality (hereinafter referred to as the “Client”) through “Investing Projects Implementation Unit Building up of Yerevan” Community Non-Commercial Organization (“IPIU Building up of Yerevan” CNCO) will announce a tender invitation (REOI) to select a Consultant to carry out this assignment. **The tender will follow the Least Cost Selection (LCS) procedure**.

The working drawings must be prepared in accordance with the requirements of the construction norms and rules in force in the Republic of Armenia, including, but not limited to, compliance with the requirements of the legal acts mentioned below. In particular:

1. The Law of the Republic of Armenia "On Energy Efficiency and Renewable Energy",
2. Decision No. 426-N of the Government of the Republic of Armenia dated April 12, 2018, “On Establishing Technical Regulations on Energy Saving and Energy Efficiency in Newly Constructed Multi-Apartment Residential Buildings, as well as in Constructed (Reconstructed, Renovated) Facilities Financed from State Funds”
3. Decision No. 1399-N of the Government of the Republic of Armenia dated August 31, 2006, “On Approving the Procedure for Conducting Energy Expertise and Amending Decision No. 2200 of the Government of the Republic of Armenia dated December 9, 2005”;
4. Decision No. 814-N of the Government of the Republic of Armenia dated June 7, 2012, “On Approving the Procedure for the Introduction and Application of Standard Designs for Multiple Use and Their Catalogues in the Republic”;
5. Decision No. 596-N of the Government of the Republic of Armenia dated March 19, 2015, “On Approving the Procedure for Issuing Permits and Other Documents for Construction Purposes, and on annulling a number of decisions of the Government of the Republic of Armenia”;
6. Order No. 43-A of the Chairman of the State Committee for Urban Development of the Republic of Armenia dated April 5, 2018, “On Approving the Set of Design Rules for Ensuring Accessibility of Buildings and Structures for Persons with Limited Mobility and Persons with Disabilities”;
7. RA Construction Code 31-03 - "Public Buildings and Structures"
8. RA CN 20-04 — “Seismic-Resistant Construction Design Norms”;
9. RA CN dated 24.02.2022 — “Ensuring Building Energy Efficiency: Energy Efficiency Assessment Indicators”; RA Construction Code 24-01-2016 “Thermal Protection of Buildings” Construction Norms; Decision No. 56-N of the RA Government approving RA Construction Norm dated 22-03-2017 “Artificial and Natural Lighting”. Decision No. 392-N of the Government of the Republic of Armenia dated February 16, 2006, “On Approving the Procedure for Determining the Number of Persons with Disabilities and the Population Groups with Limited Mobility for Ensuring Accessibility of Social, Transport, and Engineering Infrastructure”;
10. Order No. 12-N of the Chairman of the State Committee for Urban Development of the Republic of Armenia dated June 25, 2024, “On Approving RA CN 31-03.07-2024 ‘Healthcare Institutions: Buildings and Structures of Hospital (Inpatient) Facilities’”; International best practices in energy efficient renovation and seismic upgrades of buildings.
11. Other applicable legal documents and norms such as sanitary norms for public buildings, kindergartens and health centers.

The projects must undergo a simplified expert review, in line with the legislation of the Republic of Armenia, and obtain approval from international experts providing technical assistance (TA) to the program.

# OBJECTIVES OF THE TERMS OF REFERENCE

This Terms of Reference (ToR) outline the provision of consultancy services under the contract signed between the Client and the Consultant. The scope of this ToR includes preparation of design and cost estimation documents for the Energy efficiency improvements along with seismic upgrades of health center Karmir blur, in Shengavit administrative district, Arshakunyats health center, in Shengavit administrative district, and Kanaker-Zeytun health center, in Kanaker-Zeytun administrative district.

Additionally, the Consultant is expected to prepare Environmental and Social Management Plans (ESMP), Environmental Impact Assessment (EIA) reports, and Monitoring Plans (MP) or site-specific ESMPs with MPs, where applicable, as well as to conduct Author’s Supervision during the reconstruction phase.

The design shall be developed on the basis of on-site surveys, geological investigations, as well as environmental and social impact assessment (where necessary), **along with the energy audit report(s) and building’s technical condition and seismic vulnerability assessment reports – both to be provided by the Client.** The design shall incorporate both national and international best practices and construction norms for enhancing building energy efficiency, and seismic resilience. The cost-effectiveness of all proposed solutions is a mandatory requirement.

The Client will provide the Consultant with the Environmental and Social Management Framework (ESMF) and electronic versions of relevant documents as guiding materials for preparing the EIA reports or site-specific ESMPs.

# SCOPE OF SERVICES, TASKS, AND EXPECTED OUTPUTS

## 3.1. Description

The addresses of the health centers, along with the necessary information, are provided below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Health/medical center** | **Location** | **Established Date** | **Annual Visitors** | **Land Area (ha)** |
|  | **Karmir blur health center** | Shengavit administrative district of Yerevan  27-Karmir blur Street | 1971 | 72,450 | 0.27692 |
|  | **Arshakunyats**  **health center** | Shengavit administrative district of Yerevan  43-Arshakunyats Avenue | 1960 | 68,280 | 0.52863 |
|  | **Kanaker-Zeytun health center** | Kanaker-Zeytunadministrative district of Yerevan  17-Droyi Street | 1971 | 149,225 | 2247.2 |

## 3.2. Scope of ToR

Although this ToR aims to outline the scope of work and tasks in detail, the Consultant should note that the list of tasks defined in this ToR should not be considered final and exhaustive, therefore, it is the Consultant's responsibility to verify the scope of work and services, and accordingly extend, reduce, or modify them in consultation with the Client, wherever deemed necessary, given the professional judgment, experience and knowledge of the Consultant. It is expected from the Consultant to perform all required tasks – even not listed in this ToR - to achieve the project’s intended outcomes.

The consultant should take into consideration the following constraints and assumptions where applicable։

1. Planned capacity per health center as described in the table in Section 3.1.
2. The designs and drawings of the health centers should be developed in accordance with the conceptual design presented by the author (and approved by the Client) within its technical proposal within Phase I of this assignment (see Section 3.5).
3. Health centers must be designed in full compliance with the all requirements stipulated by the legislation of the Republic of Armenia (see the list in Section 1.3).
4. The number of floors, rooms, and other adjacent facilities, as well as energy, fresh air/ventilation and lighting, should be planned in-line with the required capacity (groups/beneficiaries) defined in point a of this section. The area allocated per beneficiary should comply with the national technical requirements, taking into consideration the unique characteristics of the site.
5. Measures improving energy efficiency and ensuring efficient use of water should be incorporated into the technical solutions proposed, including but not limitted to thermal insulation of the building envelope, application of energy efficient HVAC and lighting systems, equipped with appropriate control systems. **The energy efficiency measures must either strictly follow the recommendations outlined in the Energy Audit Reports (EARs), or any deviations must be clearly justified with supporting technical and economic rationale**. The proposed solutions should take into account the interoperability of the newly introduced systems with the existing ones (if any). All proposed measures should meet the requirements defined by Technical Specifications available as annexes to this ToR.
6. Construction materials with **low embodied carbon** must be prioritized to minimize the environmental impact of the building's lifecycle. Construction materials must have minimum impact on health and safety of the beneficiaries, and in the meantime ensure comfort in buildings.
7. The health centers should be equipped with solar water heating system(s). Capacities and purpose of the solar water heaters should be in line with the recommendations of the Energy Audit Report and any changes should be discussed with and approved by the Client.
8. The health centers should be equipped with rooftop solar photovoltaic (PV) system; the capacity of the solar PV system should be defined based on the three-year average electrical energy consumption (which should be modified taking into consideration the savings in electricity consumption due to the energy efficiency measures introduced), and grid integration capacity defined by the Electric Networks of Armenia (ENA) CJSC, along with available space for **safe and efficient operation and maintenance** of the PV plant. The designer should also simulate the monthly and annual energy performance and provide energy yield data using a licensed simulation software.
9. The load-bearing structures, inter-floor slabs, and roof slabs of the health centers are made of monolithic reinforced concrete, while the roof supporting elements can be either metal or wooden.
10. If applicable, typical design solutions can be replicated and used for preparation of design documents and drawings for other health centers as well.
11. Α lighting study – focusing on comfort, safety and efficiency - should be conducted, using appropriate digital tools and in compliance with relevant national (RACN 22-03-2017 Artificial and natural lighting) and international lighting standards such as EN 12464, as specified in the Technical Specifications.

## 3.3 National Legislation and Permits Required for Design and Cost Estimate Documentation

The following laws of the Republic of Armenia establish the legal framework applicable to the project's activities:

* **Land Code (2001, last amended in 2022)**

The Land Code defines the main directives for the management and use of lands under state ownership, including those allocated for various purposes such as agriculture, urban development, industry and mining, energy production, communication lines, transport, and other purposes. The Code stipulates specially protected areas, as well as forested, water-covered, and conserved lands. It also sets forth measures for the land protection and specifies the rights of state bodies, local self-governing bodies, and citizens concerning land. Any type of temporary or permanent land plot that may be required for the implementation of the Project will be acquired in accordance with the Land Code.

* **Labour Code (2004, last amended in 2023)**

The Labour Code regulates collective and individual labour relations, establishes the principles for the formation, modification, and termination of these relations, and identifies the procedures for their implementation. It also defines the rights, duties, and responsibilities of the parties involved in labour relations, as well as the conditions for ensuring the safety and health of workers. All provisions of the Labour Code will apply to the Project staff, as well as to the personnel of contractors, subcontractors, and consultants involved at various stages of the Project.

* **Law on Atmospheric Air Protection (1994, last amended in 2022)**

The purpose of this law is to ensure favourable air quality for human health and the environment by protecting it from pollution (both natural and anthropogenic), eliminating and preventing negative impacts on atmospheric air, climate, and biodiversity. The law also regulates public relations in the sphere of air protection, prevent and reduce harmful chemical and biological impacts on the atmosphere, eliminate the irreversible consequences of air pollution, and ensure the completeness and accessibility of information on air pollution. This law also regulates emission licenses and sets maximum permitted concentrations for atmospheric air pollution, among other provisions.

* **Law on Waste (2004, last amendment in 2015)**

The law regulates legal-economic relations related to the collection, transfer, storage, development, volume reduction, and prevention of negative impacts on human health and the environment. The law defines the objects of waste usage, the main principles and directions of state policy, the principles of state standardization, inventory of statistical data and their implementation, requirements and mechanisms for their enforcement, principles of waste processing, requirements for waste management, measures aimed at reducing the quantity of waste for state monitoring, including natural resource usage fees, as well as the compensation for damages caused to human health and the environment by legal and physical entities due to waste usage, along with the legal requirements on state monitoring, and legal violations in the waste management protocols. The law defines the rights and obligations of state administration and local self-governing bodies as legal and physical entities.

* **Law on Environmental Impact Assessment and Expert Examination (2014, last amendment in 2023) and EIB environmental and social requirements**

The "Law on Environmental Impact Assessment and Expert Examination" (EIAEE) provides the legal basis for conducting and applying state expertise of planned activities and concepts, as well as presents the standard steps of the Environmental Impact Assessment (EIA) process for various projects and activities in Armenia. The planned activities are classified given the severity of potential environmental impacts, and reflect different levels of environmental impact assessment accordingly. Chapter 3 of the law defines activities subject to EIA and expertise. The requirements for the composition of the preliminary assessment application are presented in Appendix 1 of this Terms of Reference.

## Scope of the Consultant's Activities

* Preparation of detailed technical design documents and bill of quantity for health centers within the scope of this assignment․
* Ensuring the compliance of proposed solutions with the current construction norms and technical requirements of the Republic of Armenia, along with requirements defined by the Client and the protection policies by European Investment Bank (EIB). These policies include the framework for environmental and social risk management, the resettlement policy framework, and special environmental management plans, as well as economic viability of investments.
* Conducting geodetic, geological, topographic, and cadastral surveys of the area, processing the relevant documentation.
* Conducting site visit to verify the data presented in the EAR and update any outdated information, such as historical energy bills or interventions implemented after the completion of the EAR.
* Obtaining ‘no objection’ on the developed technical designs from respective stakeholders.
* If necessary, submitting a written inquiry to the “Center of Expertise for Environmental Impact Assessment” SNCO of the Ministry of Environment of the Republic of Armenia regarding the EIA. Submitting the written inquiry/response to the Client. If required, making the state payment /15,000 AMD/. Conducting the EIA (if necessary) falls within the Consultant's obligations.
* Assisting the client in obtaining and submitting technical conditions, baseline data, and other documents necessary for design and construction as defined by the laws of the Republic of Armenia.
* Performing author's supervision during the construction.

**The Consultant is obliged to:**

1. **During the design phase**

Based on the Technical Specification provided by the Client, fulfill all requirements, including:

* Assist the Client in the development of the **architectural design assignment** (required in obtaining construction and other permits) and provide necessary information regarding applicable normative requirements within the assignment in subject.
* Participate in training and capacity building sessions organized by the Client.
* Assist the Client in the preparations for and participate in public hearings of the project as required by Armenian legislation.
* Verify on-site the accuracy of the provided technical conditions and other baseline data and their compliance with the design requirements.
* Perform detailed measurements in order to validate actual dimensions prior to any design activities.
* Prepare detailed drawings for the proposed solutions including but not limited to thermal insulation of the building envelope, the HVAC system, cold and sanitary hot water supply, natural gas and electricity supply, indoor and outdoor lighting systems, renewable energy systems’ integration.
* Develop design documents for seismic upgrades, according to the seismic survey results.
* Realize the assignment in a timely manner given the timeline defined in the contract.
* Ensure compliance of the proposed solutions with national construction norms, technical regulations and technical specifications (presented as Annexes to this ToR)․
* Adhere to the normative requirements for seismic resistance applicable to reconstruction of buildings, when developing building designs.
* Make the necessary adjustments to the design, considering Client's comments and feedback.
* Take into account the comments and suggestions by expert examination (environmental, fire safety, technical safety, simple, etc.) and make appropriate amendments as needed.
* Consider the comments and suggestions from international experts (if any) regarding the project and making appropriate adjustments as needed.
* Obtain approval of the final design by respective (community leaders, authorized (interested) bodies, supplier organizations, etc.) in accordance with Armenian legislation.
* In cases defined by Armenian law, prepare and submit the preliminary assessment application for environmental impact for state environmental expert examination (if necessary).

1. **Author's Supervision** shall be carried out in line with the order No.143 dated September 28, 1998 of the Minister of Urban Development of the Republic of Armenia, “Instructions on the Implementation of Author's Supervision over Construction”.

During the construction phase the author of the technical design documents must oversee the construction works and control the conformity of them with the technical design documents.

Under the Author’s Supervision component the Consultant is required to realize the following:

* + Participate in training and capacity building sessions organized by the Client.
  + Participate in the process of marking building axes and perimeter (construction staking).
  + Organize site visits according to the schedule agreed with the Client, at least **twice (2)** per month, and ensure the presence of its personnel as planned.
  + If necessary, upon the request of the Client, visit the construction site in addition to the planned intervals.
  + Verify the conformity of the on-going and completed works with the design.
  + Provide necessary consultations to the Client and the Contractor during the construction.
  + Properly maintain the Author’s Supervision logbook, record all identified deviations, and provide instructions for their elimination.
  + Present to the Client a list of employees performing Author’s Control, indicating the Team Leader.
  + Eliminate any design deficiencies discovered during construction. Promptly address issues related to the design that arise during construction, in coordination with the Client.
  + Record any deviations from design solutions in the relevant section of the General Construction logbook, informing the Client accordingly.
  + Inform the Client in writing about any detected defects and deviations, including non-compliance with safety regulations.
  + Participate in the process of handing over the completed construction works.
  + Immediately inform the Client and obtain their approval in case of any necessary changes to the schedule or previously agreed solutions.
  + Validate the **covered works** and final construction acts prepared during construction, and in case of rejection, submit a written justification to the Client.
  + In case of identifying any defects, unauthorized or significant deviations from the design which threatens the stability and reliability of buildings and structures, which may lead to a substantial increase in construction costs or timelines, inform the Client in writing within **two (2) days**.
  + Within **five (5) days** after signing the completion act for each task/activity, the Consultant should submit the completed Author Supervision logbook to the Client, which is also considered as the **final report** for the respective task/activity stipulated by the Author’s Supervision Contract.
  + During any construction project, as an interim report, the Author must submit a quarterly Author Supervision report to the Client by the **5th of the following month**. The report should reflect the visits along with observations made during each visit, works performed, and specialists involved during those visits.

The following sections outline the phases and detailed schedule for the preparation of design documents.

## Phase I

Preliminary design, geological investigations of the project sites at **Karmir blur, Arshakunyats and Kanaker-Zeytun health centers**, studying documents published along with the ToR, and development of the Environmental and Social Management Plan (ESMP) (to be developed in accordance to the additional guidance provided in Attachment 2).

**The duration of Phase I is defined as thirty (30) calendar days after commencement of services.**

The author of the design documents must submit the following documents to the Client for approval:

* + The results of geodesic survey – which should be carried out according to the Universal Transverse Mercator coordinate system (UTM), geological and hydrological surveys, situation plan, site masterplan with necessary sections and layouts.
  + Study of cadastral documents.
  + Brief description of the historical and cultural monuments, their buffer zones and any structures which are subject to special care according to national regulation, which are located within the vicinity of the project site.
  + Identification and description of privatized areas and structures within the boundaries of the project site.
  + Clarification of the areas subject to renovation, the list of structures, and their volumes. **As previously noted, these areas must either comply with the EAR or be clearly justified in the event that any deviations from the EAR are identified**. Additionally, the following comprehensive tables should be added.

|  |  |  |
| --- | --- | --- |
| **Areas** | **Before renovation**  **(m2)** | **After renovation**  **(m2)** |
| Heated area |  |  |
| Unheated area |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Total building element area**  **(m2)** | **Area subject to renovation due to poor thermal performance**  **(m2)** | **Area subject to renovation due to the inclusion of additional spaces within the building**  **(m²)** | **Total area subject to renovation**  **(m2)** |
| External wall insulation |  |  |  |  |
| Roof insulation |  |  |  |  |
| Insulation of internal ceilings adjacent to unheated/unconditioned spaces (including the basement ceiling) |  |  |  |  |
| Insulation of internal walls adjacent to unheated/unconditioned spaces |  |  |  |  |
| Insulation of walls adjacent to the ground |  |  |  |  |
| Insulation of floor adjacent to the ground |  |  |  |  |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |

* + Justification of the proposed capacity for energy efficiency interventions such as but not limited to the heating system upgrade, as well as the Renewable Energy (Photovoltaic system and solar collectors) integration.

Additionally, a comprehensive table should be added in accordance with the following template.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Type, number and capacity of each component (boilers, AC split units, recuperators) before renovation** | **Type, number and capacity of each component (boilers, photovoltaic & solar collector panels, AC split unit recuperators) after renovation** | **Total Capacity**  **(kW)** | **Efficiency[[2]](#footnote-2)**  **(%)** |
| New heating system |  |  |  |  |
| Photovoltaic system |  |  |  |  |
| Solar collectors |  |  |  |  |
| AC split units |  |  |  |  |
| Ventilation system installation |  |  |  |  |
| Lighting system upgrade |  |  |  |  |

* Lighting study using appropriate digital tools and in compliance with relevant national (RACN 22-03-2017 Artificial and natural lighting) and international lighting standards such as EN 12464, as specified in the Technical Specifications.
* Clarification of the list of works scheduled according to the ToR.
* Clarified drawings of the architectural and planning solutions based on the approved preliminary design.
* Schematic design of the structural solutions: plans of foundations and floors, sections, layouts, etc.
* Other architectural and construction designs that will provide a complete understanding of the proposed solutions.
* The submitted materials must be agreed with the Client and supplemented with appropriate explanatory notes.

The designs should be developed in accordance with the guidelines enclosed in Attachment 3 hereby.

## Description of Phase II

**Development of construction (or working) drawings for Karmir blur, Arshakunyats and Kanaker-Zeytun health centers based on the approved preliminary design.**

**The duration of Phase II is set at one hundred and eighty (180) calendar days.**

Based on the approved preliminary design (Phase I), the Consultant must develop the **construction drawings** and present them to the Client for approval.

**Construction drawings** should be developed according to the requirements of order No. 128-N dated 11.09.2017of the Chairman of the Urban Development Committee under the Government of the Republic of Armenia, and should include the following sections:

* General explanatory note,
* Master plan,
* Plans for all levels, including basement and technical floors, showing all structural elements (reinforced concrete structural elements, metal structures, details of metal constructions, wooden structures, etc.),
* Drawings of sections for all main elements of the building façade: roof, ceiling, external walls, doors and windows, basement nodes, and connections,
* Technical solutions (including the drawings) proposed for thermal insulation of the building envelope, and the openings replacement, along with instructions for implementation of the thermal insulation and installation of the fenestration, which should be in-line with the findings and recommendations defined by the Energy Audit Report (to be provided to the Client) or properly justified in the event that any deviations from the EAR are proposed. Additionally, a comprehensive table should be added:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Building Envelope thermal insulation** | | | | |
| **Energy Efficiency Measure** | **Insulation material** | **Insulation thickness**  **(cm)** | **Insulation thermal conductivity**  **(W/mK)** | **Total U-value of the building element**  **(W/m2K)** |
| External wall insulation |  |  |  |  |
| Roof insulation |  |  |  |  |
| Insulation of internal ceilings adjacent to unheated/unconditioned spaces (including the basement ceiling) |  |  |  |  |
| Insulation of internal walls adjacent to unheated/unconditioned spaces |  |  |  |  |
| Insulation of walls adjacent to the ground |  |  |  |  |
| Insulation of floor adjacent to the ground |  |  |  |  |
| **Openings replacement** | | | | |
| **Energy Efficiency Measure** | **Frame material** | **Glazing material** | **Total U-value**  **(W/m2K)** | |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |

* Detailed designs and drawings of external walls and related components, such as drainage pipes and gutters, including the installation of anti-icing cable systems, suspension brackets, telecommunication accessories, etc. The drawings should be accompanied by corresponding plans, including piping for solar water heating systems,
* Detailed drawings of sewage and rainwater drainage connections or other appropriate drainage solutions,
* Detailed single-line diagram and drawings of cold and hot water, natural gas, electricity and air supply, including the details of protective conduits and thermal insulation (where applicable).
* Detailed single-line diagram of grounding and lightning protection systems.
* Detailed single-line diagram of internal and external illumination systems.
* Detailed single-line diagram of fire alarm systems and fire safety signboards.
* Detailed single-line diagram of fire extinguishing systems.
* Detailed drawings of evacuation routes.
* Detailed description of evacuation route signage, including light and sound indicators.
* Technical description of the film intended for window tinting: fire resistance, elasticity, operational lifespan, etc.
* Detailed drawings of basic shelters, including relevant furniture, ventilation, water supply, and sanitary facilities.
* Detailed drawings of communication and video surveillance networks and devices.
* Detailed electrical schematic designs of solar photovoltaic systems and solar water heaters.
* Detailed description of energy-efficient illumination devices, following the lighting study performed.
* Technical descriptions and detailed schematics of all mechanical, electrical, and plumbing systems (HVAC equipment, pipelines, electrical equipment, fire extinguishing systems).
* Detailed design documents for the seismic upgrades, according to the seismic survey.
* Technical specifications of all materials and equipment to be used during construction — specifically, a detailed description of equipment and structures (thermal insulation materials, windows, doors, internal and external lighting, HVAC and any utility supply systems, solar photovoltaic and water heating systems, etc.). In addition to the technical characteristics the technical specifications should also include instructions for installation/assembly works for each system, equipment, or material.
* Environmental protection plan.
* Health and safety plan.
* Detailed description of the safe arrangement and technical conditions of the streets adjacent to the building.
* Engineering and technical measures aimed at civil protection and emergency situation preparedness.
* Construction schedule including the dismantling and demolition phases as well.
* Drawings of elevator shafts along with respective mechanisms and equipment operated within the elevator system.
* Cost Estimate Documents and Bill of Quantities – a detailed estimation of costs must be submitted. Additionally, the estimate documents for health centersmust be presented according to the relevant divisions, with separate versions for energy efficiency improvement works (details to be clarified with the Client).
* Summarized Reports and Specifications of major construction materials, products, buildings, and structures.
* All summary reports and specifications (demolition works, construction works, electrical works, water-sewage, etc.) must be presented in a tabular format, where volumes must be specified separately for each numbered buildings and as a total sum.
* Estimated investment cost of each proposed energy efficiency and renewable energy measure, covering full implementation (from A to Z), to be presented in a tabular format. For example:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Estimated investment cost - without VAT**  **(€)** | **Estimated investment cost - including VAT**  **(€)** | **Estimated investment cost - without VAT**  **(€/piece[[3]](#footnote-3))** | **Estimated investment cost - including VAT**  **(€/piece)** |
| External wall insulation |  |  |  |  |
| Roof insulation |  |  |  |  |
| Insulation of internal ceilings adjacent to unheated/unconditioned spaces (including the basement ceiling) |  |  |  |  |
| Insulation of internal walls adjacent to unheated/unconditioned spaces |  |  |  |  |
| Insulation of walls adjacent to the ground |  |  |  |  |
| Insulation of floor adjacent to the ground |  |  |  |  |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |
| New heating system |  |  |  |  |
| Lighting system upgrades |  |  |  |  |
| Photovoltaic system |  |  |  |  |
| Solar collectors |  |  |  |  |
| Ventilation system installation |  |  |  |  |

* Estimated investment cost for each non-energy efficiency measure (A to Z), presented in a tabular format (as regarding the energy efficiency measures).
* The technical drawings should be accompanied with high-quality three-dimensional (3D) renderings of both the exterior and interior finishes.
* All proposed construction materials must comply with requirements of the relevant RACNs and ensure resource-efficient performance and the safe operation of buildings. Material selection must be pre-approved by the Client.
* The results of monthly and annual energy yield assessment for solar PV systems must be presented as part of the technical design documents. The simulation must be performed using a licensed simulation software and must take into consideration all external issues which might affect the performance of PV systems, i.e., shading and heat sources․
* The project should include a SMART management system.
* The project should be approved by the Urban Planning working group, which operating under the Mayor of Yerevan, based on the presentation by the designer.

The Consultant must submit the design and cost estimation documentation for health centers of **Karmir blur, Arshakunyats and Kanaker-Zeytun** to the Client, ensuring that they have obtained positive conclusions from the Urban Development Simple Expert Examination and other required assessments as per Armenian legislation, with the exception of the State Comprehensive Urban Development Expert Examination (Expert Evaluation), which is conducted by the Client. Cost estimation documents must be submitted to Client in both hard copy and electronic formats. The electronic version must include the design structured according to the work program (AutoCAD, ArchiCAD, Revit, or other relevant software), as well as its PDF format, while cost estimation must be provided in both PDF and Excel formats. The hard copy version must be submitted in **four (4) copies** in A3 format for the design documents, while the budget documents in **two (2) copies** in A4 format. The entire package of design andestimate documentation must be provided in both Armenian and English.

The Consultant must also have the consent of utility organizations (i.e., VEOLIA DJUR CJSC, ENA CJSC, GAZPROM ARMENIA CJSC, telecommunication companies) and head of community on the proposed design.

**The presented list is not exhaustive. The project must be submitted to the Client in compliance with Order No. 128-N of the Chairman of the Committee for Urban Development under the Government of the Republic of Armenia dated September 11, 2017 “On Approval of the Rules Determining the Composition and Content of the Design Documentation for Residential, Public and Industrial Buildings and Structures, and on annulling the Order No 273 of the Minister of Urban Development of the Republic of Armenia dated November 29, 2006”.**

## Phase III

**Author supervision during construction for Karmir blur, Arshakunyats and Kanaker-Zeytun health centers. The Phase III will commence in parallel with the corresponding construction works.**

Under the Author Supervision Contract, the final report for each assigned task is deemed the properly completed author supervision logbook, which the Consultant must submit to the Client within **five (5) working days** after the signing of the final completion act for the construction works covered by the assignment.

During the construction phase, as an interim report, the Consultant must submit the Author Supervision Logbook to the Client by the end of each quarter. The logbook must reflect the site visits made during the reporting period, the performed works, and the specialists who participated in the visits.

## Reporting and Work Acceptance Procedure

Upon completion of each design phase, the documents submitted by the Consultant for approval are considered the report for the respective phase.

Each phase of work is considered completed on the day of acceptance of works by the Client, and on the following day the period provided for the next phase of work starts.

The period of state expert examinations stipulated by the legislation of the Republic of Armenia, the period of study of designs by international experts (if any), as well as the period of review of designs by the Client are not included in the duration of the phases provided for by the terms of reference. At the same time, the deadlines for eliminating the deficiencies revealed as a result of the examinations provided by the legislation of the Republic of Armenia, international examinations and the study of projects by the Client are included in the duration of each stage.

The Client reserves the right to reject the completed work for each phase and request revisions in case of incomplete design documentation and/or design omissions.

The Client submits the designs for comprehensive examination, urban development simple expert examination and international examination prescribed by the legislation of the Republic of Armenia.

The designs shall be submitted for other examinations (environmental impact assessment expertise, fire safety requirements compliance expertise, technical safety expertise of design documentation for industrial hazardous facilities, etc.) stipulated by the legislation of the Republic of Armenia (payments envisaged for them by the Armenian legislation) by the Consultant.

## Monitoring, Supervision, and Reporting

Project implementation activities should include provisions consistent with ESMF, ESIA, and site - specific ESMP, which are drafted for all individual sub-projects, the recording of information obtained during the Environmental, Social Health and Safety (ESHS) monitoring process and the reporting mechanisms of supervision results.

Environmental and Social monitoring and reporting measures are described below:

The Technical Supervision Consultant (organization) must include environmental and social specialists in their team for the monthly monitoring of environmental, social, health, and safety activities, in compliance with ESMP requirements. The Consultant's E&S specialists will conduct field visits to the sites at least once a month. The monitoring should be carried out with the same level of professionalism and responsibility as other technical aspects of the works.

The AC will include the Consultant’s clearly defined tasks regarding the management of the contractor’s environmental and social performance, providing professional support and guidance to contractors on ESHS matters, and reporting to the Client. The Technical Supervisors will be authorized to promptly identify any ESHS issues that may arise during the implementation of the Project and assist the contractors in resolving such issues. The contractor will report to the Technical Supervisor on all aspects of the work performed, including ESHS.

* **Incident Reporting**

The Consultant is responsible for immediate reporting to the management on any incident or accident related to the project that has or may have a significant negative impact on the environment, impacted communities, the public or workers. This also includes incidents resulting in worker or public death or serious injury, violence, discrimination or protests, unexpected impacts on cultural heritage or biodiversity; environmental pollution; cases of forced or child labor; displacement without proper legal procedures (forced eviction); allegations of sexual exploitation, abuse, or sexual harassment (SH); or disease outbreaks.

* **Emergency Situation Response Component**

An Emergency Situation Response Component (ESRC) manual will be prepared prior to the description of management measures, in accordance with the Environmental and Social Standards (ESSs).

## Completion of Phases and Submission of Materials

**PHASE I** is considered complete when the Client is provided with:

* Sketch designs and alternative technical solutions, including cost estimates, preliminary construction planning, and economic analysis,
* Justification for any deviations from the Energy Audit Report or the seismic assessment, supported by both technical and economic rationale,
* A report on the environmental and social studies conducted, and, if necessary, information on resettlement,
* "Draft of Project Report" of construction works, based on the results of the feasibility study. The Consultant must submit the draft version to the Client at least **fifteen (15) calendar days** before the final deadline (including the Environmental and Social Impact Assessment Report), for review, amendments, and approval.
* The final version of the "Draft of Project Report," must incorporate the Client's all comments and which must be approved by the Client.

All materials for Phase I must be submitted to the Client in English (1 copy) and Armenian (2 copies). Reports should also be provided electronically on CD ROM disks.

**Phase II design works begin after the Client approves the results of Phase I.**

**PHASE II: Preparation of the Detailed Design Package**

A Detailed Design Package will be prepared, forming the technical part of the Tender Documents (designs, technical specifications, and a bill of quantities). The designs must be created using AutoCAD, the textual parts using Microsoft Word, and the bill of quantities and other calculations using Excel. While preparing the Detailed Design Package, the Consultant must ensure that the site conditions are accurately reflected in the documents presented to the bidders. Along with the Detailed Design, the ESIA/ESMP package and RAP (if necessary) will be prepared. The typical format of the ESMP package is presented in Appendix 2 of these Terms of Reference.

* **Designs**

The Consultant must present the design and cost estimation documents for **Karmir blur, Arshakunyats and Kanaker-Zeytun** **health centers** to the Client with positive conclusions from the Urban Development Simple Examination and other required examinations under Armenian legislation, except for the conclusion of the Urban Development Comprehensive State Expert Examination, which will be carried out by the Client.

The design and cost estimation documents must be submitted to the Client in both paper and electronic formats.

The electronic version must include the design structured according to the work program (AutoCAD, ArchiCAD, Revit, or other relevant software), as well as its PDF format, while cost estimation must be provided in both PDF and Excel formats. The hard copy version must be submitted in **four (4) copies** in A3 format for the design documents, while the cost estimate in **three (3) copies** in A4 format.

The Client may request the entire package of design and cost estimation documents from the Contractor in both Armenian and English.

The Designer must come to the agreement with supplying organizations and head of community on design.

* **Technical Specifications**

The “Technical Specifications” of construction works include a detailed description of the provisions and conditions for developing designs and realization of construction works, as well as the requirements for materials, services, and products to be in construction/reconstruction works. In addition, they include the required standards for materials, products, and services and outline the mandatory work plan for the Contractor.

Attached to this Terms of Reference is the complete package of “Technical Specifications” (Attachment number) as well as the “Guidelines to the Designers” document (Attachment number), developed by the Client, which have a general and guiding nature. Based on these documents, it is necessary to develop the technical specifications of the object in close cooperation between the Consultant and the Client.

The Technical Specifications prepared by the Consultant should cover all types of construction works that may arise during the construction/reconstruction process. They should be specifically tailored to the scope of work of each assignment. This means that certain provisions may be added or removed accordingly.

The Technical Specifications should include, in the form of an “Annex”, documents ensuring the continuity of the construction process, such as a list of benchmarks, intersections with gas pipelines, cables, roads, and other communications, coordination with relevant authorities on water supply interruptions or resumptions, reserve or waste sites, land acquisition, and other necessary issues.

* **Bill of Quantities (BoQ) and Construction Work Planning**

In scheduling the construction works, consideration should be given to climatic factors—including the onset and duration of winter—together with other local conditions and the typical duration of works as informed by local practice.

In accordance with the construction work plan, the Consultant shall prepare engineering estimates of work volumes. These volumes shall be presented in a table, hereinafter referred to as the **“Bill of Quantities” (BoQ)**, which will be incorporated into the tender documents.

The Consultant shall prepare a **simplified BoQ**, providing a concise yet sufficient description of the construction works and their associated investment costs. This shall include the cost for each individual construction work as well as the total cost for each energy efficiency, renewable energy, and non-energy efficiency measure, along with reasonable details of work volumes.

In addition, a **comprehensive BoQ table** shall be prepared. The BoQ shall consist of a **summary section** and separate sections for each category of work (e.g., earthworks, concrete works, metal works). Each section shall be presented on a separate page and submitted for agreement with the Client.

In the **“General Annexes”** section, the Consultant shall provide a table demonstrating the correspondence between the work volumes indicated in the drawings and the relevant items in the BoQ.

The BoQ shall exclude work volumes related to construction organization, technological schemes, and commissioning, except for those works explicitly defined as mandatory in the design.

* **Preparation of Design Estimates**

The “Engineering Estimates” for construction works are not included in the tender documents. They are intended to provide the Client with information about the estimated cost of the project. Those who have access to such information or are involved in its preparation are strictly prohibited from disclosing it to anyone, particularly to contractors and suppliers.

* **General Annexes**

The General Annexes include materials not directly related to construction, such as:

* Terms of reference;
* Defect reports;
* Minutes of Meetings;
* Conclusions (on material testing, structures, etc.);
* Correspondence among stakeholders of the project;
* A table indicating items within the BoQ and volumes of each according to the design ;
* A table indicating items within the BoQ and market prices of each;
* Other materials prepared during the design process.

**Completion of PHASE II and materials to be submitted**

Phase II is considered complete when the Consultant submits to the Client the complete set of documents and information listed in Section 3.6 of this ToR, including the BoQ and Construction Timeline, which should all be approved by the relevant expertise (including state and, if necessary, environmental examinations) with all required positive expert conclusions.

The Consultant must prepare separate tender documents for each construction contract, the composition of which is outlined below.

The time required for the review and approval of the Detailed Tender Package by the relevant expertise, including making any necessary changes and corrections, should be included in the overall design duration and reflected in the Work Plan submitted by the Consultant. **The costs of expert review services should be borne by the Consultant and included in their financial proposal.**

**The Consultant must submit the following documents to the Client:**

1. **Tender documents, consisting of the following materials (for each health centers):**
   * Explanatory notes, baseline data — **5 copies** (4 copies in Armenian, 1 copy in English),
   * Designs - **5 copies** (4 set in Armenian, the other in English),
   * Technical Specifications — **5 copies** (4 copies in Armenian, 1 copy in English),
   * Bill of Quantities (BoQ) — **5 copies** (4 copies in Armenian, 1 copy in English),
   * Final ESIA/EMP package and RAP (if necessary), with all required permits and approvals — **5 copies** (4 copies in Armenian, 1 copy in English).
2. **Annexes** 
   * Project cost estimates — one copy each in Armenian and English;
   * General annexes — one copy each in Armenian and English.

The aforementioned documents must be submitted to the Client within **one hundred eighty (180) calendar days** after the commencement of Phase II.

**The task of “Design Works (Phase I and Phase II)” will be carried out under a “Lump-Sum Contract”.**

The procurement of construction works for **Karmir blur, Arshakunyats and Kanaker-Zeytun health centers** is planned to be conducted following the **International Competitive Bidding (ICB) open procedure**.

**PHASE III. Author Supervision**

The Consultant is obliged to properly and timely carry out the author’s supervision to ensure the compliance of construction works with the design.

During the construction phase the author (of the technical design documents) must oversee the construction works and control the conformity of them with the technical design documents. The Author’s Supervision processes include the following:

* Participate in training and capacity building sessions organized by the Client.
* Participate in the process of marking building axes and perimeter.
* Organize site visits according to the schedule agreed with the Client, at least **twice (2)** a month, and ensure the presence of its personnel as planned.
* If necessary, upon the request of the Client, visit the construction site in addition to the planned intervals.
* Verify the conformity of the on-going and completed works with the design.
* Provide necessary consultations to the Client and the Contractor during construction.
* Properly maintain the Author’s Supervision logbook, record all identified deviations, and provide instructions for their elimination.
* Present to the Client the list of employees performing Author’s Control, indicating the Team Leader.
* Eliminate any design deficiencies discovered during construction. Promptly address issues related to the design that arise during construction, in coordination with the Client.
* Record any deviations from design solutions in the relevant section of the General Construction logbook, informing the Client accordingly.
* Inform the Client in writing about any detected defects and deviations, including non-compliance with safety regulations.
* Participate in the process of handing over the completed construction works.
* Immediately inform the Client and obtain their approval in case of any necessary changes to the schedule or previously agreed solutions.
* Validate the buried works and final construction acts prepared during construction, and in case of rejection, submit a written justification to the Client.
* In case of identifying any defects, unauthorized or significant deviations from the design which threatens the stability and reliability of buildings and structures, which may lead to a substantial increase in construction costs or timelines, inform the Client in writing within two (2) days.
* Within five (5) days after signing the completion act for each task/activity, the Consultant should submit the completed Author Supervision logbook to the Client, which is also considered as the final report for the respective task/activity stipulated by the Author’s Supervision Contract.
* During any construction project, as an interim report, the Author must submit a quarterly Author Supervision report to the Client by the 5th of the following month. The report should reflect the visits along with observations made during each visit, works performed, and specialists involved during those visits.

The Consultant must provide an opinion to the Client regarding the substantiated proposals submitted by the Bidders (potential Contractor(s)). **The costs of these activities should be included in the Consultant's financial proposal.**

The Author's Supervision assignment will be implemented under a “Time-Based” contract. The approximate start date of the “Time-Based” Contract is **July 2027**, with an estimated construction duration of **twenty-four (24) calendar months** andwill be calculated from the start date of the works.

The Author’s supervision will be carried out throughout the entire period, starting from the commencement of construction works envisaged by the design until the commissioning of the facility, including **Defects Liability Period (DLP)**.

The Defects Liability Period (DLP) for each construction contract will be **365 (three hundred sixty-five) calendar days**, starting from the issuance of the “Taking-Over Certificate".

**Within the Defects Liability Period (DLP), the Consultant shall:**

* Ensure the availability of the necessary experts (team leader, relevant specialists according to the nature of the works) at the construction site(s);
* Ensure the mandatory presence of the relevant experts at the construction site, upon the Client's first request and according to the agreed schedule;
* During the Defects Liability Period, provide the Client and the Contractor with the necessary consultations;
* Provide the Client with a written conclusion regarding the correction of the identified defects.

**The Consultant has to prepare their Financial Proposal for Time-Based contract based on terms and conditions defined by this ToR.**

# REQUIREMENTS FOR THE QUALIFICATION OF THE CONSULTANT, TEAM COMPOSITION, AND KEY EXPERTS

## 4.1 Qualification of the Consultant’s Key Staff

The Consultant’s key staff should consist of the following specialists with appropriate qualifications and work experience:

1. **Team Leader/ Project Chief Engineer**

* ***General qualification:*** Higher education in architecture, civil engineering, or other related fields, with a minimum of 5 years of relevant experience in contract management.
* ***Relevance to the assignment:*** At least 5 years of experience in managing at least 3 similar projects, including design, supervision, and/or construction.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

1. **Architect (at least 3 specialists)**

* ***General qualification:*** Higher education in architecture with a minimum of 5 years of relevant work experience.
* ***Relevance to the assignment:*** Participation in at least 3 similar projects as an architect.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

1. **Structural Engineer (at least 2 specialists)**

* ***General qualification:*** Higher education in structural engineering with a minimum of 5 years of work experience.
* ***Relevance to the assignment:*** Participation in at least 3 similar projects as a structural engineer.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

1. **Water Supply and drainage Engineer (at least 1 specialist)**

* ***General Qualification:*** Higher education in water supply and drainage engineering with a minimum of 5 years of work experience.
* ***Relevance to the Assignment:*** Participation in at least 3 similar projects as a structural engineer.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

1. **Electrical - Energy Engineer (at least 1 specialist)**

* ***General Qualification:*** Higher education in electrical-energy engineering with a minimum of 5 years of work experience in design, development and implementation of energy efficiency measures in buildings, along with renewable energy retrofits, i.e. solar photovoltaic and solar water heating systems.
* ***Relevance to the Assignment:*** Participation in at least 3 similar projects as an engineer.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

1. **Heating, Natural Gas Supply, and Ventilation Engineer (at least 1 specialist)**

* ***General Qualification***: Higher education in heating, natural gas supply, and ventilation engineering with a minimum of 5 years of work experience.
* ***Relevance to the Assignment***: Participation in at least 3 similar projects as a structural engineer.
* ***Relevant experience in the region (CIS and/or Eastern Europe countries) & knowledge of language\*.***

***\*Notes to Consultant****:* *All Key Experts proposed under this assignment must demonstrate professional working proficiency in both English and Armenian (or indicate a feasible arrangement for communication and reporting in both languages). Language requirements apply equally to all experts, without distinction based on nationality or origin****.***

**In addition to the core staff, the list of specialists includes:**

* Communication Systems Design Engineer,
* Cost Estimator,
* Environmental Specialist,
* Social Issues Specialist.

**In the staff of the Consultant, at least one specialist must have a 1st and/or 2nd category certificate of the relevant subcategory according to the Decision No. 2106-N dated November 30, 2023 of the Government of the Republic of Armenia.**

If necessary, the Consultant must be ready to supplement its team with additional specialists by agreeing the candidate with the Client (for example, in the case of the task of developing a RAP, a resettlement specialist may be required).

**Note: At the time of commencement, the Consultant (local and/or international organization) must have a 1st and/or 2nd category license, excluding structural and architectural parts, and for the provision of surveying and investigation services for urban construction activity objects, along with an annex to it (Government of the Republic of Armenia Decision No. 2106-N dated November 30, 2023) for elaborating of urban planning documents, for the following types:**

* **Annex 05** - Electricity supply (electrical supply, electric illumination internal and external networks, electrical supply systems, photovoltaic and wind power plants)
* **Annex 06** - Heating, natural gas supply and ventilation (ventilation, heating, and air conditioning systems, thermal and natural gas supply systems)
* **Annex 08** - Water supply and drainage (internal and external water supply and drainage networks, hydro-melioration)
* **Annex 10** - Communication systems (telecommunication and signaling systems, transmitters, receivers, antennas, amplifiers)
* **Annex 11** - Engineering-geological exploration.

Moreover, licenses must remain valid for at least as long as the period covering both the completion of the construction works and the Defect Liability Period.

**MATERIALS PROVIDED BY THE CLIENT**

The Consultant's responsibilities include maintaining close ties with the Client on all matters. All official correspondence related to the work will be sent to the Client.

The Client will provide the selected Consultant with all existing information, data, reports, and maps free of charge to the extent that they are available and will, as far as possible, assist the Consultant in obtaining the remaining relevant data from government agencies and public authorities. However, it is the Consultant's responsibility to verify the quality and applicability of this information. The aforementioned information, data, reports, and other documents will be available to the Consultant throughout the duration of the services.

# DOCUMENTS SERVING AS THE BASIS FOR DESIGN

* RA Government Decision No. 814-N of 07.06.2012 “On Approving the Procedure for the Introduction and Application of Model Projects and Their Catalogs in the Republic of Armenia.”
* RA Government Decision No. 596-N of 19.03.2015 “On Approving the Procedure for Issuance of Permits and Other Documents for Construction in the Republic of Armenia and Invalidating Several Government Decisions.”
* Order No. 43-A of 05.04.2018 of the Chairman of the RA State Urban Development Committee “On Approving the Set of Design Rules for Ensuring Accessibility of Buildings and Structures for People with Limited Mobility and Persons with Disabilities.”
* RA Construction Norms (RA CN) 31-03 – “Public Buildings and Structures.”
* RA Government Decision No. 392-N of 16.02.2006 “On Approving the Procedure for Ensuring Accessibility of Social, Transport, and Engineering Infrastructure for Persons with Disabilities and People with Limited Mobility.”
* RA CN 20-04 – “Seismic-Resistant Construction
* RA Government Decision No. 526-N of 04.05.2017 “On Approving the Procedure for Organizing the Procurement Process and Invalidating RA Government Decision No. 168-N of 10.02.2011,” Requirements of Clause 33, Sub-Clause 10 of the Procedure․
* RA CN 40-01.02-2020 – “Water Supply: External Networks and Structures.”
* RA Government Decision No. 1504-N of 25.12.2014 “On the Application of Energy-Saving and Energy-Efficiency Improvement Measures in Facilities Constructed (Reconstructed, Renovated) at the Expense of State Funds.”
* RA CN 52-01-2021 – “Concrete and Reinforced Concrete Structures.”
* RA CN 53-01-2020 – “Steel Structures”.
* Order No. 43-A of 05.04.2018 of the Chairman of the RA Urban Development Committee “On Approving the Set of Design Rules for Ensuring Accessibility of Buildings and Structures for People with Limited Mobility and Persons with Disabilities.”
* RA CN 22-03-2017 – “Artificial and Natural Illumination” Construction Norms.
* RA CN 22-04-2014 – “Noise Protection” Construction Norms.
* **EIB environmental and social requirements.**
* and others (mandatory other normative-technical documents)

# ATTACHMENTS TO THE TERMS OF REFERENCE

## ATTACHMENT 1: Composition of the Preliminary Assessment Application to be submitted for Environmental Examination

The Preliminary Assessment Application to be submitted for Environmental Examination must include:

1. The name (title) of the entity and its place of residence (location).
2. The name and purpose of the planned activity.
3. A brief description of the area subject to the proposed activity, including the surrounding environment and a situational scheme.
4. Characteristics of the proposed activity (production capacities, utilized natural resources and materials, technical and technological solutions).
5. An environmental action plan aimed at preventing, reducing, and compensating adverse environmental impacts.
6. Information on public notification, public hearings, and preliminary consent from local self-governing bodies, unless otherwise stipulated by law.

Environmental and Social Management Plan’s (ESMP) checklist for small-scale construction and rehabilitation works: General Guidelines for Using the ESMP Checklist: for low-risk subprojects, this ESMP Checklist is prepared to ensure a more optimal approach to project preparation. It is a user-friendly tool that enables compliance with environmental protection policy requirements. The checklist consists of **three (3) sections:**

* **Section 1:** Descriptive section presenting the subproject, detailing institutional and legislative aspects, the technical project content, potential capacity-building needs, and a description of the public hearing process. This section is typically limited to two pages. For provision of additional information, annexes may be provided as necessary.
* **Section 2:** Environmental and social preliminary assessment checklist, where activities and potential environmental impacts are indicated in a simple "yes/no" format. If the answer to a specific activity/issue is "yes," a reference is made to the relevant section of the following table, which contains clearly formulated management and mitigation measures.
* **Section 3:** Monitoring plan for construction and implementation activities. It follows the same format required for Class B project ESMPs under the applicable regulations. This checklist stipulates that Sections 2 and 3 must be included in contractor bidding documents, priced in the bidding process, and their proper implementation monitored during project execution.

**CONTENTS**

* General information on the project and site
* Measures for information protection
* Mitigation measures
* Monitoring plan
* Minutes of public consultations held on the ESMP project

## ATTACHMENT 2: Standard Template for the Environmental and Social Management Plan (ESMP)

|  |  |  |
| --- | --- | --- |
| **Action** | **Parameter** | **Mitigation Measures** |
| General | Notification | * + The public has been informed about the works through the press and/or notices posted in accessible locations, including the construction site.   + All required legal permits, approvals, licenses, and documentation have been obtained for project activities.   + The contractor formally agrees that all works will be carried out safely and in an orderly manner to minimize impacts on nearby residents and the environment. |
|  | Worker Safety | * + Personal protective equipment for workers shall comply with international best practices (helmets, masks, protective goggles, if requested, specialized clothing, safety footwear, etc.).   + First aid kits and fire extinguishers are available on-site.   + Emergency contact information (ambulance, fire department) is clearly displayed at the construction site on signboards. |
| Impact on biodiversity | Flora | * + Minimize impact on vegetation by planning and executing large-scale earthworks outside the active growth season (if construction occurs in natural landscapes or adjacent areas).   + Strictly monitor vegetation clearance along rehabilitated canal routes to prevent impacts beyond designated zones. |
|  | Fauna | * + Limit habitat disruption by restricting construction activities to a narrow corridor along pipeline routes. Prevent vehicle movement and uncontrolled disposal of construction materials/waste in excessively large areas adjacent to the project site.   + Draft a earthwork schedule to avoid excavation activities during the wintering and breeding periods of wildlife. |
| Pollution Management | Air Quality | * + Construction machinery and equipment must be operated and maintained regularly and appropriately.   + Excavated soil piles must be rammed.   + Water spraying should be applied to dust-generating areas to minimize inconvenience to nearby residents. |
|  | Noise | * + Noise-generating construction activities near residential areas must be limited to designated working hours.   + Enclosed or covered generators, air compressors, and other loud mechanical equipment should be used and placed as far from residential areas as possible. |
|  | Waste Management | * + Permanent waste disposal locations must be identified and approved by local authorities.   + Designated temporary waste collection areas must be established to prevent scattered waste around the construction site.   + Where possible, construction waste should be recycled and reused (except for asbestos-containing materials).   + Agreements should be concluded with certified companies for the removal and recycling of used tires and filters from construction vehicles and machinery.   + Open-air burning of construction waste at the site must not be allowed. |
| Erosion Management |  | * + Protection of slopes should be implemented through bank stabilization, embankment in critical areas, or reinforcement with vegetation.   + The topsoil layer must be removed and stored for later use in site restoration.   + Excess materials should be used for the rehabilitation of damaged areas. |
| Chance Findings (discovering unexpected archaeological or cultural heritage items) |  | * + In case of discovering chance findings during earthworks, activities must be halted, and a written notification should be sent to the Ministry of Education, Science, Culture, and Sports of the Republic of Armenia. Work may resume only after obtaining official permission from the aforementioned authority. |
| Protection of Water Bodies | Turbidity | * + Silt traps and/or gabions should be installed along riverbanks to filter soil-laden sediments.   + Erosion control measures should be applied as described above. |
|  | Pollution | * + Servicing of vehicles and machinery should be prohibited in the immediate vicinity of water bodies.   + Servicing and refueling of vehicles and machinery should be confined to designated areas with impermeable flooring and containment capacity in case of fuel spills.   + Agreements should be established with certified companies for the recycling or deactivation of used oils and petroleum-contaminated sand/gravel. |
| Unexploded Ammunition Hazard | Risk to Human Health and Safety | * + Before commencing excavation works, the Contractor must ensure that the site has been inspected and cleared of unexploded ordnance by the relevant authorities. |
| Social Risk Management | Public Relations Management | * + Appoint a local liaison officer responsible for communication with the local population and for receiving their requests and complaints.   + Present the Grievance Redress Mechanism (GRM) and maintain a GRM log in all affected communities and construction sites.   + Consult with the local population to identify and manage potential conflicts between external workers and local residents.   + Raise community awareness about sexually transmitted infections due to the presence of external labor force, involving local residents in awareness campaigns.   + Plan project activities as much as possible after the irrigation season to avoid or minimize service disruptions. Inform the local population about construction and other work schedules, service interruptions, changes in traffic routes and temporary bus routes, as well as blasting and demolition activities, where applicable.   + Restrict construction activities during nighttime. If night work is necessary, plan it carefully and notify the affected communities in advance.   + The construction site must be properly marked and fenced.   + Construction materials or waste must not be temporarily stored on cultivated land or any type of private property.   + Temporary storage areas for construction materials and waste should be designated in a manner that does not obstruct free traffic movement or pedestrian access.   + Any accidental damage caused by the Contractor must be restored. |
|  | Work Management | * + Whenever possible, avoid locating construction sites in close proximity to communities.   + Establish and operate construction sites only after consulting with neighboring communities.   + Maximize the engagement of local unskilled and semi-skilled labor in construction activities. Whenever possible, improve the work skills of local workers to enhance their participation.   + Ensure that construction sites are equipped with adequate toilet and washing facilities, including hot and cold running water, soap, and hand-drying devices. Any construction site that also serves as worker accommodation must have a temporary septic system to prevent contamination of nearby water bodies.   + Raise workers’ awareness of building good relations with the local population. Develop and strictly enforce a code of conduct aligned with international best practices, including disciplinary actions such as termination of employment and financial penalties. |

**ENVIRONMENTAL AND SOCIAL MONITORING PLAN**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **What**  (Which parameter should be monitored) | **Where**  (Is it required to monitor the parameter) | **How**  (Is it required to monitor the parameter) | **When**  (Specify the frequency or timing – e.g., periodically or continuously) | **Why**  (Is the monitoring of parameter implemented) | **Cost**  (If not included in the project budget) | **By whom**  (Is responsible for monitoring) |
| 1. Notification |  |  |  |  |  |  |
| 1. Workforce safety |  |  |  |  |  |  |
| 1. Biodiversity |  |  |  |  |  |  |
| 1. Findings |  |  |  |  |  |  |
| 1. Dust |  |  |  |  |  |  |
| 1. Constructional and common waste |  |  |  |  |  |  |
| 1. Noise |  |  |  |  |  |  |
| 1. Topsoil |  |  |  |  |  |  |
| 1. Public relations management |  |  |  |  |  |  |
| 1. Labor management |  |  |  |  |  |  |

**ATTACHMENT 3. Guidelines to the Designers**

**Table A:** **General comments/guidelines**

|  |  |
| --- | --- |
| General Comments | Guidelines |
| General comments | * As this is an energy efficiency project, a minimum of 30% energy consumption reduction is required upon completion * The energy efficiency measures must either strictly follow the recommendations outlined in **the Energy Audit Reports (EARs)**, or any deviations must be clearly justified with supporting technical and economic rationale. * Please include the tables provided in the revised ToR for Design and Author Supervision of the 4th building package (also attached below) within the design documentation |

**Table 1: Heated and unheated areas before and after renovation**

|  |  |  |
| --- | --- | --- |
| **Areas** | **Before renovation**  **(m2)** | **After renovation**  **(m2)** |
| Heated area |  |  |
| Unheated area |  |  |

**Table 2: Building envelope refurbishment – Areas subject to renovation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Total building element area**  **(m2)** | **Area subject to renovation due to poor thermal performance**  **(m2)** | **Area subject to renovation due to the inclusion of additional spaces within the building**  **(m²)** | **Total area subject to renovation**  **(m2)** |
| External wall insulation |  |  |  |  |
| External roof insulation |  |  |  |  |
| Internal ceiling (facing non heated areas) insulation |  |  |  |  |
| Walls facing non heated areas insulation |  |  |  |  |
| Walls facing the ground insulation |  |  |  |  |
| Floor facing the ground insulation |  |  |  |  |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |

**Table 3: Renovation data for HVAC systems and RES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Type, number and capacity of each module (boilers, AC split units recuperators) before renovation** | **Type, number and capacity of each module (boilers, photovoltaic & solar collectors panels, AC split units recuperators) after renovation** | **Total Capacity**  **(kW)** | **Efficiency[[4]](#footnote-4)**  **(%)** |
| New heating system |  |  |  |  |
| Photovoltaic system |  |  |  |  |
| Solar collectors |  |  |  |  |
| AC split units |  |  |  |  |
| Ventilation system installation |  |  |  |  |

**Table 4: Building envelope refurbishment – Materials**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Building Envelope thermal insulation** | | | | |
| **Energy Efficiency Measure** | **Insulation material** | **Insulation thickness**  **(cm)** | **Insulation thermal conductivity**  **(W/mK)** | **Total U-value of the building element**  **(W/m2K)** |
| External wall insulation |  |  |  |  |
| External roof insulation |  |  |  |  |
| Internal ceiling (facing non heated areas) insulation |  |  |  |  |
| Walls facing non heated areas insulation |  |  |  |  |
| Walls facing the ground insulation |  |  |  |  |
| Floor facing the ground insulation |  |  |  |  |
| **Openings replacement** | | | | |
| **Energy Efficiency Measure** | **Frame material** | **Glazing material** | **Total U-value**  **(W/m2K)** | |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |

**Table 5: Investment cost of energy efficiency measures**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Energy Efficiency Measure** | **Estimated investment cost - without VAT**  **(€)** | **Estimated investment cost - including VAT**  **(€)** | **Estimated investment cost - without VAT**  **(€/piece[[5]](#footnote-5))** | **Estimated investment cost - including VAT**  **(€/piece)** |
| External wall insulation |  |  |  |  |
| External roof insulation |  |  |  |  |
| Internal ceiling (facing non heated areas) insulation |  |  |  |  |
| Walls facing non heated areas insulation |  |  |  |  |
| Walls facing the ground insulation |  |  |  |  |
| Floor facing the ground insulation |  |  |  |  |
| External windows replacement |  |  |  |  |
| External doors replacement |  |  |  |  |
| New heating system |  |  |  |  |
| Lighting |  |  |  |  |
| Photovoltaic system |  |  |  |  |
| Solar collectors |  |  |  |  |
| Ventilation system installation |  |  |  |  |

**Table B: Guidelines to specific energy efficiency measures**

|  |  |
| --- | --- |
| Energy Efficiency Measure | Guidelines |
| Wall insulation | * Preferably mineral wool * XPS/EPS is also acceptable * Insulation thickness according to the Armenian building code |
| Roof insulation | * In case of inverted roofs (in which the hydro insulation is placed under the thermal insulation) only XPS is acceptable * For any other case, any insulation material is acceptable except for perlite bags * Insulation thickness according to the Armenian building code (in order to achieve the required U-value of the building element) |
| Basement insulation | * From a fire safety point of view, Mineral Wool is the safest for fire-critical applications due to its non-combustible nature. EPS and XPS are less fire-safe and should be used cautiously, with added fireproofing measures in sensitive areas. * Where Mineral Wool is applied as thermal insulator, especially in the basements, dew point considerations are crucial to prevent moisture-related issues like condensation, mold growth, and structural damage. In this case we will need to properly place a vapor barrier, ensure adequate waterproofing and drainage of the basement, use thermal breaks where necessary, and monitor temperature and humidity of the basement. * EPS and XPS should both be covered by non-combustible material such as fire-rated drywall, cement board, or concrete to act as a protective barrier. * XPS is more moisture-resistant than EPS, but prolonged exposure to water can degrade both materials, leading to reduced performance and mold growth. * Proper ventilation and monitoring the growth of mold is required in all cases. * Insulation thickness according to the Armenian building code (in order to achieve the required U-value of the building element) |
| Openings | * Double glazed with PVC frame (preferably) * In case Aluminum frame is chosen, thermal breakers are mandatory * Total U-value of the openings according to the Armenian building code |
| Lighting | * Mandatory lighting study using globally popular software tools, e.g. Dialux, in order to assure compliance with RACN 22-03-2017. |
| PVs installation | * The designers should calculate the three-year average electricity consumption for each building and adjust the PV system capacity accordingly, ensuring that the electricity production remains below 100% of the average consumption. * Given the environmental (shading objects, heat sources, etc.) and structural constraints, an optimum orientation and tilt angle should be selected for the solar PV arrays. |
| Thermal Solar collectors | * The solar thermal system should provide not only the heating demand of the rooms, but also, if possible, be utilized to meet the kitchen’s hot water and/or thermal energy needs. |
| Heating system update | * The capacity of the new heating system should be calculated by taking into account the energy savings achieved through the implementation of energy efficiency measures, as well as any potential increase in heated area resulting from the inclusion of additional spaces during renovation. |

1. The latest version of  EIB’s Guide to Procurement shall be used and can be downloaded from EIB website. The link to the currently valid version is:<https://www.eib.org/en/publications/20240132-guide-to-procurement-for-projects-financed-by-the-eib>  [↑](#footnote-ref-1)
2. System efficiency is expressed individually based on the type of intervention. For example, in case of solar PV systems can be expressed in terms of Performance Ration and/or Specific Energy Yield. [↑](#footnote-ref-2)
3. Per square meter regarding thermal insulation and windows replacement. Per KW regarding heating system replacement, lighting and RES. Per recuperator regarding ventilation installation [↑](#footnote-ref-3)
4. heat recovery in the case of the ventilation system improvement [↑](#footnote-ref-4)
5. Per square meter regarding thermal insulation and windows replacement. Per KW regarding heating system replacement, lighting and RES. Per recuperator regarding ventilation installation [↑](#footnote-ref-5)