1. BACKGROUND

The Greater Amman Municipality (“GAM” or the “Client”) have requested the European Bank for Reconstruction and Development’s (the “EBRD”) support to prepare and finance a critical environmental infrastructure project (the “Project”). The Project is related to the urgent remediation and prevention of a 200,000 m² contaminated lagoon in the city of Russeifa (15 km north-east of the capital Amman) (“Phase 1” of the Project) and the subsequent urban regeneration of the area involving the development of a municipal park and green spaces covering the former lagoon area (“Phase 2” of the Project). Phase 1 is expected to cost JOD 7.0 million (~EUR 8.4 million), and Phase 2 is expected to cost JOD 14.0 million (~EUR 16.8 million).

The contaminated lagoon developed due to the obstruction of a natural water stream, which used to flow from Wadi Marka (a rainwater catchment area south-west to the lagoon), into the Zarqa River (north-east of the lagoon). The obstruction, which arose from industrial and mining activities in the area, has resulted in complete blockage of water flow, creating a stagnant pond behind it. Over time, the lagoon has become heavily polluted with industrial and domestic sewage, debris, trash, and other contaminants. The situation has significantly deteriorated since 2011, underpinned by the refugee crisis, which placed unprecedented pressure on the surrounding wastewater network resulting in an increase of uncontrolled sewage discharges indirectly to the lagoon; the Hittein camp and adjacent areas, for example, are believed to be discharging illegally. Much of the original Wadi Marka would appear to be culverted given its now urban setting.

Figure 1 - Contaminated Lagoon at Russeifa
Upon the Prime Minister’s instructions, a technical committee has been convened which includes key stakeholders (GAM, WAJ, Russifah Municipality etc.) to assess the issue, recommend and implement an appropriate solution. The Technical Committee has identified its preferred preliminary solution that involves the following:

**Phase 1 - Lagoon Conveyance Infrastructure:** Installation of a deep pipe that would bypass the artificial obstruction and permanently restore the conveyance of water from the culverted Wadi Marka to Zarqa River; this would prevent the lagoon from forming again. The works would also include safe removal and disposal of the stagnant lagoon water and contaminated silt/soil. Should the deep pipe solution appear valid it would be important to ensure that there is no downstream harm to the Zarqa river; and

**Phase 2 - Urban Regeneration:** Remediation of the former lagoon area, including the development of an Environmental Urban green space (total cost JOD 14.0 million) to showcase sustainable and green, possibly nature based, design practices. Please note that Part 2 is not part of this assignment.

Additionally, the Water Authority of Jordan (“WAJ”) and the Municipality are expected to permanently address misconnected foul water and storm-water flows respectively that reportedly input to the lagoon upstream. Assistance to permanently address illegal connections may be additionally required.

The assignment aims to identify and address a complex problem that has not been resolved for many years. It is essential that the solution proposed by the Feasibility Study component addresses several upstream issues, in an integrated manner, to collectively protect the River Zarqa downstream. The scope of work shall include but is not limited to:

1) Domestic wastewater collection and its treatment (resolving misconnected and illegal sewage that contributes to the lagoon);
2) Industrial wastewater discharges and its pre-treatment;
3) Storm water inputs (with its potential pre-treatment too);
4) Identifying a permanent solution for the contaminated (potentially hazardous) sludge and soil from the lagoon (volumes involved and ability to arrange a safe disposal in line with the Bank’s requirements is unclear at present).

The EBRD now wishes to engage a consultant (the “Consultant”) to carry out a Feasibility Study (“FS”), technical and functional specifications of the proposed conveyance line solution and tender support of Phase 1 of the Project.

2. **OBJECTIVES**

The overall objective of the Assignment is to identify an optimal, sustainable solution that the Bank can use to appraise Phase 1 of the Project and take a decision on its prospective financing.

Specific objectives of the assignment shall include, *inter alia:*

Source: https://www.google.co.uk/maps/@32.0070434,36.0276216,968m/data=!3m1!1e3
1. Preparation of a clear method of work which includes details of tasks, assumptions, milestones and deliverables etc.

2. Study and assess the technical and financial feasibility of the proposed pipeline solution, establishing whether it is the most viable, least whole-life cost and sustainable solution available and if not to propose alternative solution(s) and/or component(s).

3. Conduct a complete hydrological study of the upstream catchment, geotechnical studies and basic water quality modelling, and identify the additional investigations that may be required and an outline cost and programme for additional studies (if any). Investigate & confirm source of all relevant upstream contributions including storm water, foul water, industrial discharges etc. and identify the measures required to reduce or remove them.

4. Investigate and identify the most appropriate outlet for the safe disposal of contaminated water and soil and any pre-treatment.

5. Financial analysis of the Project.

6. Development of an efficient implementation strategy for the Project, including key steps and parties to be involved.

7. Carry out an initial scoping of the environmental and social issues, risks and impacts of the proposed technical solutions to allow the Bank categorise the Project.

8. Review the Project against the EBRD’s 2014 Environmental and Social Policy (“ESP”) and associated Performance Requirements (“PRs”) to verify, and agree with the EBRD, the project category (A or B). The Consultants should advise whether or not an Environmental and Social Impact Assessment (“ESIA”) is required by the authorities, and also whether or not an ESIA (or EIA) has been produced to date and whether there has been any public consultation.

9. If the Consultant considers the project category should be A, they shall immediately notify the EBRD. EBRD will require a full ESIA be carried out and disclosed. If a local ESIA has already been prepared, then a gap analysis will be carried out to determine whether it meets EBRD’s policy requirements and to determine the needs for a Supplementary ESIA work. If the project is categorised as A, then this ToR will be revised by the EBRD accordingly.

10. If the Project category is confirmed as B (once agreed with the EBRD), carry out the Environmental and Social (“E&S”) Assessment of the proposed Project to identify its environmental and social risks, impacts and benefits and to structure the Project to comply with the Bank’s ESP and PRs.

11. To the extent possible, the FS component should:
   - Take into account the potential impacts of climate change on the Project in order to build in resilience to climate change related risks; and
   - Assess the resource efficiency opportunities (including energy and water efficiency and waste minimisation potential and the impact on greenhouse gas (“GHG”) emissions) on the Project.


13. Assist with Tender Preparation

3. SCOPE OF WORK

‘Part A’
3.1: Baseline Study;
3.2: Comprehensive Technical Feasibility Assessment

3.3: Environmental and Social Assessment (“ESA”); Environmental and Social Assessment (“ESA”);

‘Part B’

3.4: Prepare technical and functional specifications of the proposed conveyance line solution on a “Design-Build” contract basis;

3.5 Support tender documentation and preparation.

The Consultant shall commence Part B only with the Bank’s approval on the completion of the comprehensive Technical, Environmental and Social Due Diligence (“Part A”).

The Consultant is required to prepare and submit a clear method of work which includes details of tasks, assumptions, milestones and deliverables, etc. to conclude all Phase 1 activities.

3.1 Baseline Study

This task involves the review the existing situation, so as to identify and assess any immediate risks that are associated with the Project’s viability & applicability.

- Undertake a desktop assessment of the origin and characteristics of the artificial embankment obstruction (including relevant mining activities). Confirm the insofar as is possible its chemical and physical characteristics.
- Assess the quality and volume of the lagoon waters and silt. Complete a basic soils analysis of contaminated lagoon bed and silt. Acquire basic water quality samples upstream of the Wadi Marka and lagoon water (to broadly characterise the waters).
- Confirm the extent of the natural river basin upstream of the lagoon and the volume of natural waters that enters it.
- Confirm the existing urban infrastructure configuration that input upstream to the lagoon (both directly and indirectly), identify overflows and misconnections of interest.
- Provide an overview of existing systems and facilities, including area served, length, diameter and type of main sewers, whether separate or combined, pump stations, discharge points and storm water overflows, location of major wastewater contributors (industry), septic tanks unloading and transport to pre-treatment facility, pre-treatment facility for wastewater from septic tanks, etc.
- Present schematic map and reveal possible implications for groundwater in areas not connected to wastewater collection.
- Confirm wastewater flows from the main industrial sources in terms of flow volumes and chemical/physical characteristics with special emphasis on toxic or hazardous materials discharged that could or do discharge to the lagoon.
- Identify other impacted water bodies e.g. ground water sources and any evidence of harm.
- Identify the stakeholders involved and their responsibilities.
- Describe applicable laws and regulations, institutional responsibilities and interdependencies (local and regional governments), and fees and fines levied.
- Reveal key project risks and mitigation measures.
- Confirm the scope of Physical Mapping, Hydrological and Geotechnical Studies and/or any other investigations necessary

The Consultant shall provide the Bank and the Client with an Inception Report, 3–2 weeks after mobilisation, which describes information that is already in existing investigations, programmes of related work and where the remaining gaps are, an updated schedule of work, key project risks, etc. The findings will be formally presented to the Client & EBRD.

### 3.2 Comprehensive Technical Feasibility Assessment including Physical Mapping and Hydrological Studies

The Consultant is required to assess and evaluate the proposed preliminary technical solution by the Technical Committee taking into account the following:

- Undertake topographical (ground) surveys.
- Establish, insofar as is possible, the expected likely sources, volumes of storm-water and its predicted seasonal variance assessed at the upstream catchment scale through, for example, a hydrological study taking into account the anticipated impacts of climate change.
- Establish what upstream storm, foul sewer and connections work is required or already planned for and budgeted. Demonstrate that the conveyance (lagoon pipeline) solution is the least-cost most sustainable option from a range of equally plausible options (and if not) propose a better, more viable proposal.
- Establish the most technically feasible and sustainable (environmentally and socially considerate) approach to implementing the civil component(s) i.e. open-trench or tunnelling technology etc. based upon information acquired.
- Estimate the volume, weight and content of contaminants and establish the most appropriate route for its safe removal, treatment and disposal; recommend the remediation techniques according to the principles of Best Available Technique Not Entailing Excessive Cost “BATNEEC”.
- Estimate the capital and operational cost of the project works by component and prepare an outline implementation schedule\(^1\).
- The influence of relevant EU regulations on the Project (for water, wastewater, sewage sludge, hazardous waste disposal, etc.).
- Identify relevant industrial sources and what measures are required to reduce or remove them.
- Assess capacity of the receiving water body, the Zarqa River, to accommodate the additional flow and load. Include recommendations for permanent routine flow monitoring and, if necessary, provision for flow control and management systems.

\(^1\) The Consultant shall assess a reasonable estimate of quantities and costs based on applicable previous bidding experience in Jordan if available, or prepare such estimates if not provided. Potential cost savings upon implementation of the Project shall be identified and estimated. An operational costs review shall be prepared and costs specified as either fixed or variable for each sub-component. It is important that due care is shown in preparation of these cost estimates. Taxes, duties, technical and financial contingencies are to be considered and specified. Financial contingencies are to be calculated based on an investment schedule.
• Identify additional options, if required, for the treatment of Wadi Marka waters to enable its safe discharge to the Zarqa River. Consider in-line options and catchment approaches that are sympathetic to proposals identified by WAJ.
• List all the relevant national and international codes applicable to the successful operation of the proposed solution.
• Confirm the cost of the proposed conveyance approach and alternative options for comparative purposes.
• Confirm the benefits in terms of the EBRDs standardised metrics; identify opportunities for potentially enhancing these benefits through innovative solutions e.g. source control of storm water.
• Identify short-term measures required to sustain the investment i.e. additional capacity building, estimate of capital maintenance allocation etc.
• Confirm and draft the key technical project risks matrix and the suggested measures for reducing, removing and mitigating these.
• After evaluating and assessing the proposed solution by GAM, if the findings were deemed not-viable, the Consultant should propose other alternative/s solutions.
• Using a set of agreed criteria recommend agreed with the Client to justify the least whole cost, sustainable solution, demonstrating that either the proposed conveyance approach or alternative recommended solution is likely to deliver the best outcome.

3.2.1. Estimation of Project Costs:

For use in the analysis, the Consultant will estimate the capital costs for the Project in constant values, using the start of the calendar quarter closest to the time of data collection as a reference point. The Consultant will estimate separately physical contingencies and price escalation for each measure. Similarly, the Consultant will estimate operation and maintenance costs associated with the Project.

Capital costs should be detailed and segmented by preliminaries and general, civil works, materials, plant and machinery, project management and supervision and contingencies. Cost estimates should be divided into foreign sourced costs and local sourced costs, and should use appropriate escalation factors. An anticipated disbursement schedule for construction should be developed.

3.2.2. Resource Efficiency Assessment.

The Consultant will identify and analyse energy and production optimisation opportunities as follows, if applicable:
• Energy Efficiency such as on and off-site renewable energy generation to Hydropower, solar and wind options
• Waste Minimisation including internal recycling / re-use of lagoon water, silt etc. where it is technologically and economically viable and applicable in Jordan

Technical Deliverables

The Consultant should provide the Bank and the Client with a draft pre-feasibility report, 8–6 weeks after mobilisation. The draft Preliminary Feasibility Report shall outline the development of all tasks, key findings and any steps and tasks to be further developed before submission of Final report.
The Consultant should provide the Bank and the Client a final draft Feasibility Report 14 weeks after mobilisation (within 8-6 weeks of issuing the pre-feasibility study). This shall develop further the Preliminary Feasibility Report to include information that substantiates the recommended technical solution including (i) an assessment of the existing situation and facilities; (ii) include hydrological and topographical studies and geotechnical investigations (iii) develop and assess solutions (iv) recommend and justify the least-cost, most sustainable solution assessment of the components and any necessary recommendations to the proposed Project with initial cost estimates. (v) an overview of cost and benefits to be achieved after implementation of the Project, by component; (vi) the scope of work for the project implementation team (vii) risk register and (viii) a resource efficiency assessment report and a Project assessment in table format for resource efficiency measures.

The Consultant shall distribute the draft Final Report in Arabic and English to the Bank and the Client for comments and shall organise a joint meeting to present the Final Report (“Presentation”) with all parties in the GAM within two weeks after distribution of the Report.

3.3 Environmental and Social Assessment (“ESA”)

Prior to undertaking the ESA, the Consultant is required to confirm the scope of Project Components and screen the Project proposal against the EBRD’s Environmental and Social Policy (“ESP”) and associated PRs to confirm the project category (A or B). Greenfield Waste Water Treatment Plants (“WWTPs”) of the capacity over 150,000 PE (or major expansions of the existing WWTPs by over that amount) are typically categorised as A, while upgrades of the existing water and wastewater facilities and networks are typically categorised as B. The Project proposal and Project category will need to be discussed and agreed with the EBRD prior to proceeding with the Environmental and Social Assessment (Section 3.4.5) and Environmental and Social Audit (3.4.4)- see reference to Inception E&S Report (key findings).

The Consultant must discuss and confirm the results of the Project categorisation with the EBRD’s Environment and Sustainability Department (“ESD”) prior to proceeding with the ESA.

The scope of work described below is applicable to a typical category B project, which is the most typical of assignments in the water/wastewater sector. Should the Project components involve any Category A components, the Consultant shall notify the EBRD as soon as practicable. The Terms of Reference (ToR) for the E&S Assessment will be revised by the EBRD to either include an Environmental and Social Impact Assessment (ESIA) in line with the ESP or exclude E&S Assessment out of the scope of this ToR. The revised ToR will be agreed with the Consultant together with the necessary cost implications.

3.3.1. Applicable Requirements

The E&S Assessment is to be carried out in accordance with:

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2 The ESP (2014) defines social as “those issues which pertain to project-affected people and their communities and workers and related to socioeconomic status, vulnerability, gender identity, human rights, sexual orientation, cultural heritage, labour and working conditions, health and safety and participation in decision making”.

• Applicable local, national and regional requirements, including those related with ESIAs / EIAs and associated public disclosure and consultation requirements;
• Relevant international conventions and protocols relating to environmental and social issues, as transposed into national legislation.

3.3.2. Objectives of the ESA

The objective of the ESA is to identify and assess the potentially significant existing and future adverse environmental and social impacts associated with the proposed Project, assess compliance with applicable laws, determine what permits are require, assesses compliance with the EBRD ESP and PRs, determine the measures needed to prevent or minimise and mitigate the adverse impacts, and identify potential environmental and social opportunities, including those that would improve the environmental and social sustainability of the Project and/or the associated current operations. The assessment process will be commensurate with, and proportional to, the potential impacts and issues of the Project.

The ESA (as defined in Section 3.3.5) will also determine whether further studies are required, focusing on specific risks and impacts, such as climate change, human rights and / or gender.

The Environmental and Social Audit) is required to assess the current situation in terms of compliance with national legislation, national or local permitting requirements, the relevant provisions of the EBRD ESP and PRs (2014) and pertinent EU environmental standards. Further, the audit must review possible historical environmental and social issues, such as potential contamination of soil and/or groundwater or land acquisition disputes.

Specifically, the Consultant will:
(i) Identify existing and Project-related environmental and social impacts and risks;
(ii) Describe and characterise a relevant environmental and social baseline commensurate with the risks posed by the current site operations and the Project;
(iii) Assess potential gender aspects and priorities among nearby communities to understand women’s and men’s concerns (e.g. determine women’s current activity schedules/ water use practices, attitudes towards public health etc.);
(iv) Carry out E&S Assessment and Audit and develop a draft E&S Assessment report in accordance with the Bank’s requirements as defined in the ESP, including a Compliance Summary table with the Bank’s PRs;
(v) Prepare a Resettlement/Livelihood Restoration Framework, if the Project involves any economic or physical displacement;
(vi) Prepare a draft Stakeholder Engagement Plan (SEP), draft Environmental and Social Action Plan (ESAP) and draft Non-Technical Summary (NTS);
(vii) Identify if any additional studies will be required to cover relevant aspects in greater detail (e.g. biodiversity, resettlement, retrenchment, etc.). (Any such work will be commissioned under separate Terms of Reference); and
(viii) Finalise all documentation further to the EBRD and GAM’s comments.
These Terms of Reference for the E&S Assessment refer to various E&S guidance documents (e.g. E&S Guidance 1). These are available as a separate package of E&S guidance documents.

3.3.3. Review of Available Data and Site Visit

GAM will provide all available studies for the Consultant’s review.

Data and documentation are in English and Arabic. The Consultant must be prepared to review, and also request, further documentation that are not provided by GAM.

Following the review of available data, the Consultant will visit the Project site, to obtain any supplementary information needed to complete the ESA (Sec. 3.3.55) and carry out the on-site activities necessary to fulfil the E&S Audit reporting requirements.

The data review process will include a simple media search to determine whether any relevant issues regarding the Project have been reported through the media and to determine the importance of these through additional verification during the due diligence work. If no relevant issues are identified through this process the Consultant will include a statement to this effect in its report.

Following completion of the data review and site visit the Consultant will deliver a summary of key findings.

3.3.4. Environmental and Social Audit

The E&S Audit is required to review the current and, to a limited extent, past operational performance of the GAM’s existing operations and facilities, as they relate to the Project, in terms of their compliance with relevant national environmental laws and regulations and EBRD PRs, including relevant EU environmental standards and guidelines. Consultant should provide cross-reference with other sections of the Feasibility Study, in particular the section 3.2, in case of any overlap.

Key issues to be covered under the E&S Audit may include, but not be limited to:

- A review of the GAM’s existing environmental and social management systems, policies and practices;
- Organisational capacity and resources, including description of the number of personnel; number and percentage of women and men in total staff count as well as across all levels/categories;
- Human Resources and employment (e.g. child labour, forced labour, and non-discrimination, workers’ organisations, contractor management, retrenchment and employment) policies;
- A review of equal opportunities policies and practices at GAM; assessment of potential employment opportunities for under-represented groups in the workplace (i.e. women or men, people with the disabilities, different age groups, ethnic groups, etc.) and recommendations on what measures need to be made or what policies need to be revised to ensure equality of opportunity at the Client;
- Occupational health and safety (local and national requirements, applicable EU/ international requirement and standards, key health and safety issues, control and major accident hazards, current health and safety monitoring programme, summary of
regulatory compliance status, summary of health and safety expenditures, emergency response etc.);

- Pollution prevention measures available at both facilities and overall regulatory compliance with national requirements and pertinent EU standards including applicable Best Available Techniques and Best Available Techniques Reference Documents. In addition, this assessment will need to review compliance with best international practice as a benchmark against current operations and planned plant upgrades;
- Industrial hygiene (including worker exposure, and rates of industrial diseases) and worker health and safety;
- Use and management of hazardous substances (including chlorine and other chemicals handling);
- Community health, safety and security as it relates to GAM’s existing operations;
- Major hazards assessment and management; environmental management plans in the event of an incident, accident of spill both on land and water;
- Current policy and practice in relation to avoidance of third party intrusion into potentially hazardous areas (fences, security, personnel, others);
- Management of potentially hazardous works (including excavation works, work in confined places, etc.);
- Traffic management;
- Contractor management and oversight;
- Waste management and waste minimisation;
- Sludge management practices;
- Noise and vibrations both during construction and operation of GAM’s facilities;
- Other construction related impacts (aerosol emission, dust, temporary severance to traffic, water cuts, others);
- Overview of current policy and procedures regarding land acquisition (compensation policy, consultation activities related to land acquisition including grievance management, if applicable);
- Review the corporate procedures for assessing projects with potential biodiversity impact;
- Identification of potential past environmental liabilities which may affect the Bank (e.g. soil and ground water contamination as a consequence of past and present operations);
- Overview of GAM’s supply chain (e.g. suppliers of main materials and resources including energy; presence of women-owned businesses), if relevant, and identification of relevant environmental, social, labour and/or reputation issues; and
- Public interaction, including historical responsiveness to public comments, complaints and questions. The audit should also identify GAM’s main stakeholder groups and current stakeholder engagement activities in line with PR10; and
- Monitoring practices and results.

The Consultant will be guided by the relevant requirements of the Bank’s E&S Performance Requirements. The findings of the E&S Audit should also be considered in the completion of the PR compliance assessment.

3.3.5. Environmental and Social Assessment

*Please note that the environmental and social assessment should be commensurate with the Project and its associated risks and impacts. It should be a high level assessment focusing on key risks and impacts. A comprehensive ESIA of the Project is not required.*
Where available the E&S assessment should refer to (and review) the local EIA done for the Project.

Project Description & Identification of Relevant Associated Activities & Operations: The Consultant will prepare a description of the Project including details of any alternatives considered for the Project and information on neighbouring operations and activities. In accordance with EBRD PR1, paragraph 9, the Consultant will identify:

- Any potentially significant environmental and social issues or risks associated with relevant other activities or facilities, which are not part of the Project but which may be directly or indirectly influenced by the Project, exist solely because of the Project or could present a risk to the Project;
- Cumulative impacts of the Project in combination with impacts from other relevant past, present and reasonably foreseeable developments;
- Unplanned but predictable activities enabled by the Project that may occur later or at a different location; and
- Environmental and social risks associated with the primary supply chains central to the Project’s core operational functions.

Analysis of Legal Requirements: The Consultant will identify applicable local, regional and national environmental and social laws and regulatory requirements of the jurisdictions in which the Project operates, including those laws implementing host country obligations under international law. The Consultant will analyse local/national assessment and permitting requirements and the EBRD environmental and social requirements and compare them within a gap analysis in tabular format.

As required, the Consultant will identify any issues that require legal interpretations for the Bank to raise with its legal advisors. The Consultant is not required to provide legal opinions.

The Consultant will identify, review and take into consideration any relevant strategic level assessment documentation.

Baseline Conditions: The ESA will include a review of the aspects of the physical, biological and socio-economic environment likely to be affected by the proposed Project, including the need for land acquisition. The Study shall also identify respective needs and concerns of different disadvantaged groups and/or those with less voice, such as women, to be addressed in the design, implementation, and monitoring and evaluation of the Project. Indicative guidance on the contents of the overall assessment is provided in E&S Guidance 1 of the E&S guidance pack.

The baseline assessment will include consideration of the inter-relationship between the relevant factors, as well as the exposure, vulnerability and resilience of these factors to natural and manmade disaster risks.

Project Assessment: In accordance with the Bank’s ESP (2014), the Consultant will analyse the potential environmental and social impacts and risks of the Project, as well as opportunities that the Project may provide, including infrastructure development (e.g. water,

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4 Project alternatives to include: Zero (“no project”) alternative, siting and routing alternatives, infrastructure and traffic connection alternatives, design alternatives
wastewater, a heat and electricity distribution networks, transportation access) and other associated facilities, for which the EBRD financing is being sought.

The ESA will include a review of the likely effects of the proposed Project on the physical, biological and socio-economic environment to provide an identification and characterisation of potential E&S impacts, including beneficial (as well as adverse) impacts.

This review will be structured to include all relevant stages of the Project’s life, eg. construction, operation and maintenance, closure and decommissioning, and residual E&S impacts. The level of analysis and reporting will be commensurate with the risk magnitude of the identified issues. Indicative guidance on the contents of the overall assessment is provided in E&S Guidance 1 of the E&S guidance pack.

As part of the Project Assessment, the Consultant will also:

- Confirm whether (if applicable):
  - Quantify the environmental benefits of the proposed investments, focusing on quantifying the pollution reductions and cross-border environmental benefits resultant from the Project.
  - Assess the extent to which relevant national and EU environmental, social, health and safety laws, regulations and standards will be met within the framework of the proposed investment programme.
  - The magnitude of social impacts from the Project is unclear, considering the area around the lagoon is densely populated and may have various sensitivities in terms of cultural heritage etc. The Consultant will need to confirm that.
  - Assess the occupational health and safety issues by the Client and its contractors undertaking the Project-related works, including employees and workers exposure to noise, dust, electricity, physical and other risks during modernization and refurbishment works.
  - Assess public safety and security issues and the impacts on stakeholders. This should include an assessment of potential gender-specific health and security issues and impacts (i.e. impacts during construction and maintenance phase of the service, temporary or permanent disruption of the service, timetable of the provision of water, safety concerns of accessing the water supply depending on the water supply system/location and any other security aspects (for example, an increase of male workers in the area, which may lead to an increase in the risk of harassment and assaults).
  - Assess community health, safety and security risks and benefits, including traffic management and potential nuisance to local community during both construction and operation of the Project.
- Consider potential worker and community influx into the area and future residential development and consider the need for buffer zones, etc.
  - Assess whether or not women would be disproportionally affected by the proposed investment programme and identify any opportunities to specifically address their needs and concerns so as to enable them to benefit to an even greater extent from project activities.
  - Assess the extent of land acquisition associated with the Project in line with PR5, including the nature of impacts to housing, structures, community infrastructure and any/all livelihood activities. A clear recommendation is required on whether a
Resettlement Action Plan and/or Livelihood Restoration Plan must be prepared, including a description of the scope for this task;

- Consider transport related risks associated with the Project and relocation of the septic facility to a new location.
- Verify and confirm to the Bank whether the Project’s “B” categorisation is correct.

The Bank has previously identified high rates of worker accidents on water and waste water projects which are associated with excavations, working in confined spaces and the movement of vehicles and mobile plant. Therefore the Consultant shall pay particular attention while conducting the ESA to the capacity and competency of the Client to manage risks associated with these hazards, comparing them against good internal practice.

In addition to mentioned above the Consultant is required to perform the Energy Saving Analysis to estimate the savings in energy consumption and GHG emissions reduction resulting from establishing the Project and the implications for GHG emissions (positive and/or negative) of any changes in the way waste water and sludge are treated. EBRD’s methodology for the quantification of GHGs is recommended for use (see the EBRD’s website for details).

Management of Impacts and Issues: For each identified adverse future impact, issue and/or risk, the Consultant will propose measures to avoid, minimise, mitigate or compensate for them.

EBRD PR Compliance Assessment: Based on the results of the ESA, the Consultant shall evaluate the compliance status of the Project with the EBRD PRs using the format provided in E&S Guidance 2 of the E&S guidance pack. Note that the compliance assessment should also take into consideration the findings of the E&S Audit (Section 3.3.4)

3.3.6. Reporting (E&S only)

The Consultant shall prepare the following reports of the assessment findings.

Inception Report (Summary of Key Findings): On completion of the data review and site visit, and following the identification of the Project proposal, the Consultant will deliver an inception report. This report will include a summary of key environmental and social findings, a description of the Project proposal, an indication of the project categorisation and will highlight the need for any additional studies, e.g. in relation to resettlement, livelihood, retrenchment, biodiversity, etc.

E&S Audit and Assessment Report: The Consultant will provide a concise but comprehensive report of the overall E&S Audit and Assessment. The guidance for the report content provided in E&S Guidance 1 of the E&S guidance pack may be used to structure the report but the Consultant is expected to use their professional experience to determine the final contents. The report must contain a properly and fully completed PR Compliance Assessment table as per E&S Guidance 2 of the E&S guidance pack.

Additionally, as part of this task, the Consultant will provide the following representations to the Bank regarding Policy and PR compliance issues:

- Confirm whether this Project, including existing and future components, will be able to meet the relevant EU standards on wastewater treatment and sludge
disposal/management, and whether a derogation from the EBRD’s 2014 E&S Policy will be required;

- If the derogation would be required, then:
  - confirm to what extent the drinking water quality and effluent quality standards will be improved/reached, and provide a quantitative risk-based assessment of associated health and environmental impacts;
  - confirm how much further investment is needed to bring Client’s (Company’s) operations into full compliance with EBRD PRs.

Environmental and Social Action Plan (“ESAP”): The Consultant shall develop a comprehensive ESAP to address issues identified during the E&S Appraisal and the E&S Audit. The ESAP will focus on those issues that are required to bring the operations into compliance with the EBRD’s requirements and will be presented and sequenced by PRs. Actions identified must be numbered, clearly defined, indicate a time frame for completion (with specific reference to those actions that must be completed before financial close if appropriate) and a responsible party specified. Further, each item must contain a description of the factors that will be used to determine when the identified action is closed/completed. The Consultant will also inform GAM about any material budget implications of ESAP items (although this information may not be required in the public domain).

The ESAP will be compact and, if needed, details will be included in sub-plans referenced in the main ESAP. The required format the ESAP is given in **E&S Guidance 3** of the E&S guidance pack.

Resettlement/Livelihood Restoration Framework (R/LRF)
If the Project will involve physical/economic displacement and need for preparation of an LRF is identified, the Consultant shall contact the EBRD for guidance to prepare a R/LRF in line with PR5 of the EBRD’s ESP (2014) and in agreement with the Client and the Bank. The R-LRF will identify the principles, procedures, institutional responsibilities for the development of a more detailed Resettlement Action Plan (RAP) and/or Livelihood Restoration Plan (LRP); identify potentially affected people and other stakeholders and prepare a plan for engagement activities during the development and implementation of the detailed RAP/LRP; and confirm high level entitlement measures that ensure those affected are able to replace their land/assets and/or otherwise restore their livelihoods and obtain compensation for losses.

Stakeholder Engagement Plan (SEP): The Consultant shall prepare a draft SEP in compliance with PR10. The scope and level of detail of the SEP will be scaled to fit the needs of the Project and the objectives of PR10. Following review of the Project operations, the Consultant will propose a format best suited for the specific Project needs. Guidance for the contents of an SEP is provided in **E&S Guidance 4** of the E&S guidance pack.

The Consultant will prepare the SEP in English and once approved by the EBRD, translate the SEP into Arabic.

Non-Technical Summary (NTS): The Consultant will prepare, in consultation with the Client, a concise, over-arching, standalone NTS. The NTS will be written in non-technical language and the Consultant will ensure that the NTS can be used to demonstrate compliance with the EBRD requirements, and provide confirmation that the documents are ready for public disclosure.
An indicative list of issues for the NTS is given in **E&S Guidance 5** of the E&S guidance pack.

The Consultant will prepare the NTS in English and once approved by the EBRD, translate the NTS into Arabic to enable subsequent disclosure of the NTS on the Client’s website and as an attachment to EBRD’s Project Summary Document (PSD).

**Task 1: Decommissioning the Artificial Lagoon**

The aim is to allow the GAM to decide on the most appropriate approach to decommission the artificially created lagoon waters and contaminated silt. The task will include a detailed assessment of the existing lagoon and identify the measures to safely abandon it taking into account the institutional, financial, economic, environmental, health & safety, technical and social considerations.

A review will be prepared in accordance with all currently applicable legal regulations, standards and norms applicable under the Jordanian laws and with the view to achieve and maintain compliance with the EU standards.

Work shall include but not limited to:

- Assessment of incoming lagoon flows (its quantity, quality and variability), how and when this will be intercepted, conveyed and treated elsewhere.
- Site drawings to show the arrangement in scale 1:5,000, or other appropriate, to show the location of the lagoon, the inputs and outputs including the new proposed conveyance pipeline, and other relevant infrastructure (buried and above ground).
- Establish the presence of contaminants, chemicals and other materials likely to be hazardous to health (stored, buried etc) and whether it is inert or not.
- Description of the method of work to safely decommission the lagoon, sorting and correct disposal of waste, to initial land rehabilitation.
- Prepare Bill of Quantities (material take-off and costing) for the site decommissioning, safe disposal of waste and land reclamation including:
  - additional studies (e.g. asbestos, power, ground etc) needed,
  - contract administration (site buildings etc)
  - time plan (Gantt chart) indicating the duration of time needed to (a) complete additional investigations, (b) undertake decommissioning work
  - costs to include a 5% surplus for contingencies, including other associated equipment and devices.
- Outline description of potential uses of waste materials and expected status of site once decommissioned, including any special measures.
- Report on the Environmental and Social Impact Assessment (ESIA) and the resulting Environmental, health and safety and social Management Plan — (See Task 5).
- Identification of de-construction risks, assumptions and approaches for reducing, removing or mitigating these risks.
In the drafting of the decommissioning design works the Consultant will:

- Take account of the timing and certainty of replacement infrastructure assets
- Apply safe systems of work to contractors, operators and the public
- Consider the legacy to the GAM, municipality, society and the environment;
- Strictly follow all technical regulations, standards and norms of Jordan
- Observe the environmental requirements of both Jordan and EU on safe and responsible disposal of materials

After completion of the Decommissioning Plan the Consultant will submit the proposal to the Client.

‘Part B’ of the Assignment will commence only after written authorisation of the Bank.

Following the completion of the Feasibility Study for the above mentioned Project, GAM will engage the consultant (the “Project Implementation Consultant” or “Consultant”) to prepare the technical and functional specifications of the associated infrastructure, assist GAM in the procurement and tendering procedures on a “Design-Build” basis, and Environmental and Social Action Plan (“ESAP”) implementation for which the GAM will be the main Project implementation partner. In addition to supporting the implementation of the Project, the PICConsultant will play a key role in helping to enhance implementation capacity within GAM, the Project Implementation Unit (“PIU”), assisting in project implementation support. All the services of the PICConsultant described in this Terms of Reference (“ToR”) shall be carried out in close cooperation with the PIU and – as far as is relevant – with the representatives of other authorities. To do this, the PICConsultant shall introduce regular engagement on relevant aspects of project implementation with PIU and concerned authorities.

It has been attempted to outline the PICConsultant’s tasks during execution of the services in sufficient detail. However, the PICConsultant shall bear in mind that the list of tasks and activities can by no means be considered as a definitive or comprehensive description of the PICConsultant’s full duties. It is the PICConsultant’s responsibility to verify critically the scope of services indicated and to extend, reduce or amend it, wherever he deems necessary according to his own professional judgement and the knowledge he will acquire during the preparation of his proposal. It is understood that the PICConsultant carries out all work as necessary to fulfil the objectives of the Project.

During the Consultant’s assignment, other experts and advisors may provide services to the PIU or other local authorities. It will be the duty of the Consultant to meet and co-ordinate his work with the activities of these other experts and advisers relevant to the programme.

3.4 Prepare technical and functional specifications of the Tender

Following the Feasibility Study component for the above mentioned Project, the Consultant is required to help prepare the infrastructure specifications and to assist the Client in the pre-tendering procedures. The Consultant will prepare technical requirements and functional specifications in satisfactory to the Bank format and acceptable for the use in open international tender.

The Consultant, inter alia, shall:

(a) establish appropriate qualification criteria and technical requirements;
(b) prepare technical part of the tender documents, clarifications/explanations and other relevant information to facilitate preparation of the tender documents in line with good international practices that comply with EBRD, Jordanian and EU environmental and social standards;

(c) prepare the technical specifications for the preferred solution.

3.5 Technical Support during Tender Evaluation

The Consultant will provide support to the Client throughout the procurement process. To this end, the Consultant will carry out the following activities:

- Advise to the Client on any amendments to the technical requirements in the tender documents;
- Provide technical advice to the Client during any pre-tender meetings, if needed, and record same
  - Assist with tender evaluation, queries and contract award;

The Consultant will take the lead in organising and managing the evaluation of technical proposals. To this end, the Consultant will, *inter alia*:

- Give guidance on the composition of the Technical Committee to complete effective tender evaluation as required;
- Prepare clarifications and amendments to the technical part of the tender documents;
- Provide draft detailed technical evaluation report for the consideration of the Technical Committee. Compile the Evaluation Report in the required format, including all technical and financial analyses, records of consultation with external parties by the Technical Committee and clarifications requested and receive;
- Arrange for meetings of the Technical Committee, attend as an advisor and record these meetings, presenting the minutes for approval by the Client;
- Prepare revisions or additional information to the technical part of the Evaluation Report that may be requested by the Bank;
- Provide technical advice to the Technical Committee regarding any queries and complaints;

The Consultant may be required by the Bank to provide confirmation of the Technical Committee’s recommendations.

TASK 2: Programme Management and monitoring

Task 2.1: mobilisation of the Technical Assistance team and preparation of a Pre-Tender Inception Report

- Mobilise the Consultancy team and establish local office(s).
- Organise and carry out a planning workshop with the consultants project team, the Promoter and key stakeholders according to best practice methodology facilitated/moderated by a qualified expert (not the Team Leader) in order to establish a baseline to monitor the impact of this consultancy assignment.
- Inception visit and production of Pre-Tender Inception Report

Task 2.2: Prepare programme management and project control
• Prepare a refined Project Implementation Programme ("PIP") that includes:
  ▪ Detailed work programme;
  ▪ Identify the different project components;
  ▪ Identify the separate contracts proposed under each component as independent programme tasks;
  ▪ Verify that the required land has been acquired for all the permanent works,
  ▪ Environmental and Social Impact Assessments for project permitting
  ▪ Tender periods for pipeline contracts - tender period, evaluation and contract award;
  ▪ Tender period for lagoon emptying - tender period, evaluation and contract award;
  ▪ Allow for Pre-qualification of tenderers (if recommended);
  ▪ EBRD Procurement procedures, EU Journal notices, etc;
  ▪ Construction period for each component - phased in accordance with the proposed contract strategy;
  ▪ Identify the Construction Supervision activities and related contract management tasks;
  ▪ Administration of the contracts.

• As part of the PIP, detailed resource plan required to accomplish the programmed tasks, to be achieved on time and within budget.

• Coordinate with the EBRD on the overall programme in particular the contractual milestones and tasks that require approval from the EBRD.

• Prepare a detailed methodology and resource schedule identifying the seamless transition that is to be implemented from the construction phase to the operation phase, starting from the commissioning of plants and networks and providing sufficient overlap of the required technical experts to ensure effective transition.

• Prepare a Project Procedures Manual addressing procurement procedures, reporting and auditing, and environmental milestones.

Task 2.3: Carry out programme management and project control

• Prepare and submit monthly progress reports to the PIU and EBRD.

• Advise the PIU and the EBRD of any issues that affect the overall programme or cost of the project as soon as these are identified, and take agreed corrective action.

Monitor progress against the approved programme in terms of task completion related to milestones, delays, resources, and budget.

**TASK 3 – Environmental and Social Impact Assessment (ESIA)**

One of the objectives of the ESIA is to enable the issuance of environmental permits as soon as possible. Preparation of the Environmental and Social Impact Assessment study for the pipework and WWTP and network as a minimum includes, but is not limited to:

(i) Description of the pipework;
(ii) Description of the lagoon;
(iii) Description of the lagoon water and silt and its disposal;
(iv) Description of the environment that could be affected by the project.
(v) Description and assessment of the possible impacts on the environment, and benefits;
(vi) Description and assessment of social/health impacts and benefits;
(vii) Environmental, health and safety and social management plan;
(viii) Evaluation of alternatives;
(ix) Draft monitoring plan in accordance with the regulations;
(x) Waste management plan, sludge management plan;
(xi) Capacity building required, including on environmental, health & safety and social issues management, and associated institutional strengthening; and
(xii) Report on stakeholder engagement and public consultations, including preparation of a Stakeholder Engagement Plan (SEP).

After completion of the ESIA for the pipeline and lagoon, the PIC Consultant will submit the draft study to the PIU. After receiving the study, the PIU will organize (a) joint meeting(s) that will be attended by all stakeholders. During this/these meetings, the PIC Consultant will provide all the necessary explanations on the ESIA. Draft ESIA for the pipeline and lagoon will also be subject of expert review and the PIC Consultant will carefully consider all comments of experts (auditor) before submitting the final version of the ESIA no later than 15 days after receipt of comments from the experts (auditor) and PIU. After approval and preparation of the final document of the ESIA, the PIU will review the final document once again and give the PIC Consultant written consent to its completion.

TASK 4: Preparation of Tender Documents

The PIC Consultant shall assemble technical requirements, specifications, drawings and Bill of Quantities for tender documents for the construction of the following:

- pipeline and its associated infrastructure and the decommissioning of the artificial lagoon,
- the Environmental and Social Impact Assessment (ESIA) and the resulting Environmental, health and safety and social Management Plan, and any additional
- Environmental, health and safety (EHS) contractor management arrangements in line with good international practice.

The PIC Consultant shall prepare all documents in accordance with the EBRD standard tender documents for procurement of works and FIDIC conditions of contract for construction works designed by the Employer (Yellow Book).

The construction of the various Project components will be implemented through a ‘Design-Build’ contract whereby the assets are owned and operated by GAM. As such, a grant funded PIU Technical Assistance programme is expected to raise GAM’s implementation capacity that will help the Client in monitoring the performance of the construction contractor and thus decreasing the probability of cost overruns and possible additional equity contribution by the Government of Jordan.

It is envisaged that one International contract will be tendered for the pipeline and lagoon decommissioning to be designed by the PIC Consultant under a ‘Design- Build’ contract. Engagement and participation of the PIU/GAM is encouraged; both at bidding and design stages, to review this contract strategy and propose what they consider to be the optimum delivery structure.
Nonetheless the PIC Consultant responsibilities will include the following main activities:

- Development of “Design-Build” Tender Documents for the conveyance pipeline and decommissioning of the lagoon. The Tender Documents will be developed in Arabic based on local practice for “Design-Build” contract documents.
- Draft “Design-Build” Tender Documents for the contracts defined above the finalised conveyance pipeline and decommissioning of the lagoon for review by the GAM and the EBRD.
- Finalisation of “Design-Build” Tender Documents incorporating comments as required.
- Prepare Contract Documents - IT, C of C, Particular Conditions, Schedules.
- Tender and contract documents will need to include specific clauses on the management of environmental, social and health and safety risks.

The PIC Consultant will need to ensure that the Labour Conditions of the EBRD version of Standard tender document, works contract, as well as the requirement for complying with the EBRD Environmental and Social Action Plan and any other relevant action plans prepared during the due diligence for this Project, are included in the tender documents and contracts.

Once drafted, PIC Consultant will submit the Tender Documents to the Bank for the Bank’s “no objection”. The PIC Consultant will be expected to incorporate any amendments required by the Bank in order to give its “no objection”.

**TASK 5: Support during the Procurement Process**

The PIC Consultant will provide support to GAM throughout the procurement process. To this end, the PIC Consultant will carry out the following activities:

- Draft and ensure that all procurement notices are placed in a timely manner in accordance with the Banks’ PP&R;
- Ensure that all approvals and no-objections are applied for in a timely manner;
- Carry out the administration of the tender process, ensure that appropriate records are kept, documentation is properly stored, recorded and managed, and confidentiality is maintained;
- Prepare draft responses to Tender clarification enquiries, arrange for approval and issue and record the same;
- Prepare any amendments to tender documents as may be required and obtain no-objection prior to issue;
- Arrange any pre-tender meetings, if needed, and record same;
- Advise PIU’s tender committee of the rules and procedure for tender opening;
- Arrange public tender opening and prepare corresponding minutes.

The PIC Consultant will take the lead in organising and managing the evaluation process. To this end, the PIC Consultant will, inter alia:

- Give guidance on the composition of the Evaluation Committee and to the Evaluation Committee as required;
- Provide draft detailed evaluation report for the consideration of the Evaluation Committee. Compile the Evaluation Report in the required format, including all technical and financial analyses, records of consultation with external parties by the Evaluation Committee and clarifications requested and receive;
• Arrange for meetings of the Evaluation Committee, attend as an advisor and record these meetings, presenting the minutes for approval by PIU;
• Document the Evaluation Committee’s deliberations in relation to the Evaluation Report and compile the agreement there into the Evaluation Report prior to seeking all approvals;
• Prepare revisions or additional information to the Evaluation Report that may be requested by the Bank;
• Ensure that all queries and complaints are promptly attended to as appropriate and copy such inquiries as appropriate to the Bank;
• The PIC Consultant may be required by the Bank to provide confirmation of the Evaluation Committee’s recommendations.

The PIC Consultant will provide support to GAM during contract finalisation. To this end, the PIC Consultant will, inter alia:

• Prepare a brief for GAM indicating all the items to be resolved in the clarifications pre-contract, if any;
• Attend pre-contract discussions, if any, and document the discussions, updating the contract documents if necessary and seeking all necessary approvals;
• Advise on the validity of performance and other contract-related securities;
• Circulate the Contract as required by the Bank’s PP&R;
• Notify unsuccessful Tenderers;
• Ensure that all queries and complaints are promptly attended to as appropriate and copy such inquiries and responses as appropriate to the Bank. The PIC Consultant may be required by the Bank to participate in ‘de-briefings’ as a result of complaints.

4. IMPLEMENTATION ARRANGEMENTS AND DELIVERABLES

The Consultant shall report to the EBRD whilst liaising with representatives of the Client.

The Client will provide the Consultant with working space, necessary furniture and telephone connections.

The Client will designate senior officials to be the primary contact persons with specific responsibility for assisting the Consultant and co-ordinating activities.

The Client will make available all of their records, plans, reports, designs and other documents as appropriate, but it will be the responsibility of the Consultant to translate these documents, if necessary.

The Client will provide access to all of their facilities and employees for questioning or assistance relative to an understanding of the functioning of system facilities.

The Consultant shall be responsible for paying for all international telephone connections, office supplies and external printing. The Consultant shall pay for all local transportation required by the Consultant’s staff throughout the duration of the assignment.

The Consultant shall be responsible for providing suitably qualified interpreters/translators to work with their staff.

The Consultant shall produce in the course of the Assignment the following reports:
## 'PART A’ DELIVERABLES

<table>
<thead>
<tr>
<th><strong>Inception Report:</strong></th>
<th>Within 2 weeks of Consultant mobilisation.</th>
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<tbody>
<tr>
<td>Following the site visit, initial data review and initial opinion as to a project proposal; presenting the initial findings, with an emphasis on findings having an impact on the time schedule and factors affecting these Terms of Reference. The findings will be formally presented to the Client &amp; EBRD.</td>
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<table>
<thead>
<tr>
<th><strong>Draft Preliminary Feasibility Report:</strong></th>
<th>Within 6 weeks of Consultant mobilisation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>draft Preliminary Feasibility Report, outlining the development of all tasks, key findings and any steps and tasks to be further developed before submission of Final report. The structure of the final report will include information regarding at least the following tasks: (i) an assessment of the existing situation and facilities; (ii) include hydrological and topographical studies and geotechnical investigations (iii) assessment of the components and any necessary recommendations to the proposed Project with initial cost estimates. The Consultant shall distribute the draft Preliminary Feasibility Report in Arabic and English to the Bank and the Client for comments and shall organise a joint meeting to discuss the Report (“Presentation”) with all parties in the GAM within two weeks after distribution of the Report. This report will also contain the E&amp;S Inception Report (summary of key findings) as per Section 3.4.6, for the Bank to be able to categorise the project.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Draft E&amp;S Assessment Report:</strong></th>
<th>Within 10 weeks of Consultant mobilisation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Consultant shall submit to the Bank the following:</td>
<td></td>
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<tr>
<td>• Draft Environmental and Social Audit and Assessment Report, which includes a PR compliance table (see E&amp;S Guidance 1 &amp; 2 of the E&amp;S guidance pack);</td>
<td></td>
</tr>
<tr>
<td>• Draft Environmental and Social Action Plan (ESAP) (see E&amp;S Guidance 3 of the E&amp;S guidance pack);</td>
<td></td>
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<tr>
<td>• Draft Stakeholder Engagement Plan (SEP) (see E&amp;S Guidance 4 of the E&amp;S guidance pack);</td>
<td></td>
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<tr>
<td>• Draft Non-Technical Summary (NTS) for disclosure to the public (see E&amp;S Guidance 5 of the E&amp;S guidance pack); and</td>
<td></td>
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<tr>
<td>• Draft Resettlement-Livelihood Restoration Framework (R-LRF);</td>
<td></td>
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<tr>
<td>• Final documentation - within 2 weeks of receiving the Bank’s comments on the draft versions. The report should contain a concise 1-2 page Executive E&amp;S Summary. The final versions of the report, ESAP, SEP, R-LRF and NTS will be translated into Arabic.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Draft Final Feasibility Report:</strong></th>
<th>Within 6 weeks of preliminary feasibility report</th>
</tr>
</thead>
<tbody>
<tr>
<td>this shall develop further the Preliminary Feasibility Report to include information that substantiates the proposed solution including (i) an overview of cost and benefits to be achieved after implementation of the Project, by component; (ii) the scope of work for the project implementation team, (iii) risk register and (iv) a resource efficiency assessment report and a Project assessment in table format for resource efficiency measures.</td>
<td></td>
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</tbody>
</table>
The Consultant shall distribute the draft Final Report in Arabic and English to the Bank and the Client for comments and shall organise a joint meeting to present the Final Report (‘Presentation’) with all parties in the GAM within two weeks after distribution of the Report.

**Final Report** elaborating and reflecting all comments addressed during the Presentation, and including summary information on the Project.

To be submitted within two weeks after the Presentation.

**‘PART B’ DELIVERABLES**

‘Part B’ shall not be undertaken by the Consultant prior to EBRD written confirmation to proceed. At that time, a delivery schedule shall be agreed. The below timings are indicative only at this stage.

| Task 2: Technical and functional specifications of the associated infrastructure | After 3 weeks from ‘Part B’ approval |
| Task 3: Programme, Monitoring Plan and Pre-Tender Inception Report |  |
| Task 4: Report on the Environmental and Social Impact Assessment (ESIA) and the resulting Environmental, health and safety and social Management Plan | After 6 weeks from ‘Part B’ approval |

Procurement and Tender Support (Tasks 4.5-8.6):
- Tender Documents
- Tender Evaluation
- Signed Contracts

After 6 weeks from ‘Part B’ approval

One copy of each report in English is required; all versions shall also be provided in electronic-readable format, in both Word and PDF. Executive summaries of each report should be provided in English and Arabic. Supporting data in the Arabic language in the appendices need not be translated for English versions of the documents. The Consultant shall also be available to respond to any comments/questions that might be received during the final approval of the project by the Bank.
Annex 1: Standard measuring indicators and SRI impact indicators

**Standard measuring indicators:**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Indicator</th>
<th>Data point to be collected</th>
<th>Projected after implementation completion*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>Total population benefitting from access to tap water.</td>
<td>Number of persons connected to improved access to tap water.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual reduction in tonnes of CO(_2) equivalent derived from the lowering of water losses system-wide.</td>
<td>Average (for sector) kwh used to produce 1 m(^3) of water multiplied with, amount of m(^3) of water losses eliminated multiplied with, average tons of CO(_2) generated by energy generation in the country.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual m(^3) potable water produced.</td>
<td>Number of persons connected to improved access to tap water multiplied by average consumption of water in m(^3)/year.</td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>Total population benefitting from access to wastewater services.</td>
<td>Number of persons with improved access to wastewater services.</td>
<td></td>
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<tr>
<td></td>
<td>Annual m(^3) of wastewater treated.</td>
<td>Total m(^3)/year of wastewater treated through improved wastewater treatment plant and/or total m(^3)/year of wastewater supplied to existing wastewater treatment plant through improved network.</td>
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</table>

* measured two years after projected full loan disbursement

**SRI impact indicators (as applicable):**

<table>
<thead>
<tr>
<th>SRI impact indicator</th>
<th>Unit</th>
<th>Data point to be collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary energy saved</td>
<td>GJ/yr</td>
<td>Project energy use compared to baseline(^5) energy use. Primary energy includes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Direct use of fossil fuels</td>
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<td></td>
<td></td>
<td>2. Direct use of biomass.</td>
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<tr>
<td></td>
<td></td>
<td>3. Use of electricity, multiplied by a loss factor to take into account country average generation efficiencies and electricity grid losses(^6)</td>
</tr>
</tbody>
</table>

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\(^5\) The baseline is defined as the expected conditions without the project two years after full loan disbursement. The baseline is compared to the conditions projected with implemented project two years after full loan disbursement.

\(^6\) For example, with an average electricity generation efficiency of 40% and grid losses of 7%, the primary energy use (MWh) is 2.7 x the direct electricity use (MWh).
<p>| | | |</p>
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<tbody>
<tr>
<td><strong>CO2 emissions reduced</strong></td>
<td><strong>ton CO2e/yr</strong></td>
<td>Project CO2 emissions compared to baseline CO2 emissions. CO2 emissions include:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Emissions as a result of direct use of fossil fuels</td>
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<td></td>
<td></td>
<td>2. Indirect emissions as a result of the use of electricity (^7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Emissions of other Greenhouse gases (in particular methane (^6)) expressed in CO2 equivalents.</td>
</tr>
<tr>
<td><strong>Water saved</strong></td>
<td><strong>m3/yr</strong></td>
<td>Project water use compared to baseline water use. Water savings must be determined for the following project activities:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Water recycling projects that recover wastewater streams for reuse or alternative use.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Application of technology or management actions that lead to effluent water quality improvements in regions with water scarcity (^9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Water loss prevention and water demand management</td>
</tr>
<tr>
<td><strong>Material savings</strong></td>
<td><strong>ton/yr</strong></td>
<td>Material use compared to baseline material use. Material savings must be determined for project activities aimed at waste minimisation:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Minimisation of waste streams by integrated measures (i.e. improvement of existing installations, processes or procedures/management)</td>
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<tr>
<td></td>
<td></td>
<td>2. Waste recycling projects that reuse waste as inputs into new products or as a resource</td>
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</table>

\(^7\) The CO2 emissions as a result of the use of electricity are determined by multiplying the use of electricity (MWh) with the country specific grid emission factor (ton CO2/ MWh) in line with the joint MDB list of grid emission factors.

\(^6\) Tons of methane emissions (ton CH4) can be converted to tons of CO2 equivalents (ton CO2e) by applying the a factor of 25 (ton CO2e/ton CH4)

\(^9\) Qualifying for ‘water saved’: treated waste water with an effluent quality at or exceeding internationally accepted effluent water quality standards.