1. BACKGROUND

The European Bank for Reconstruction and Development (the “EBRD” or the “Bank”) is considering providing finance to the Hashemite Kingdom of Jordan (“GoJ”) for the upgrade and construction of the wastewater infrastructure system in 15 towns, located in West Irbid, by laying public sewer infrastructure that would serve an catchment area of c.21.9 km² including, where necessary, the installation of pumping stations, enabling the towns to connect effectively to the wastewater network and to the existing wastewater treatment plants (“WWTPs”) (the “Project”).

The transaction is a part of the Bank’s wider engagement with the Water Authority of Jordan (“WAJ”) aimed at developing and implementing a comprehensive wastewater investment programme in order to resolve the country’s current issues in the sector, caused by the rapid population growth, including due to Syrian refugee influx which placed an unprecedented strain on the wastewater system.

The Project will enable towns to connect to two existing WWTPs, one of which is the Wadi Al-Arab WWTP, part of the Wadi Al-Arab wastewater system which was recently co-financed by the European Investment Bank (“EIB”), the Agence Française de Développement (“AFD”), and the European Union (“EU”).

The Project will also complement a planned co-investment by KfW and AFD to rehabilitate the water and wastewater network in parts of Irbid other than the 15 towns covered by the Project at hand.

The Bank wishes to engage a consultant (the “Consultant”) to:

- To undertake a technical and financial/economic review of the existing feasibility study and project design; and
- To carry out an Environmental and Social (E&S) Assessment of both the Project and the Client’s existing operations (the “Assignment”).

The Project is categorised “B” in accordance with the EBRD Environmental and Social Policy (ESP) (2014)².

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¹ 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”.

The Irbid governorate is located 83 km north of Amman, with its borders extending to the Jordanian-Syrian borders. The western regions of the province overlooks the Golan Heights. The proximity of Irbid to the Syrian border resulted in a significant number of Syrian refugees resettling in the city of Irbid and in the towns surrounding it. The consequent population growth placed an unprecedented strain on the existing wastewater network, particularly in the towns lying to the West of Irbid which suffer from inefficient wastewater collection infrastructure. The provision of effective drainage is a prerequisite for good social welfare and environmental care.

The Project will target 15 towns in West Irbid with a total population of 75,217 (of which c.12 per cent Syrian refugees).

The proposed investment is expected to upgrade the existing wastewater network within all 15 towns, serving an area of 21.9 km², by connecting them to Wadi Al-Arab WWTP.

Improvements will be achieved by providing first time sanitation to over 100,000 residents and thus addressing urgent socio-economic needs of both the local population and the refugee community in the Project area. The improvements are likely to circumvent potential health issues and related economic losses in the Project area.

Commercial, institutional and industrial activities in all 15 towns are limited and most of the wastewater is produced by domestic households. The existing wastewater disposal system consists of cesspits or septic tanks that generally serve each property and are usually located within the vicinity of the residences. Once filled, the cesspits are emptied by sewage tankers in an unsafe and inefficient manner.

<table>
<thead>
<tr>
<th>Service Area No.</th>
<th>Name of Area</th>
<th>Jordanian</th>
<th>Syrian</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Natfeh</td>
<td>338</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>Kufr Yuba</td>
<td>14,084</td>
<td>1,815</td>
</tr>
<tr>
<td>3</td>
<td>Zahr</td>
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<td>4</td>
<td>Jumhaa</td>
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<td>387</td>
</tr>
<tr>
<td>5</td>
<td>Ham</td>
<td>1,276</td>
<td>220</td>
</tr>
</tbody>
</table>
2. **OBJECTIVES**

The main objective of the Assignment is to review the available existing sewer infrastructure designs and tender documents for the Project, to confirm the robustness of the technical solution against national/international norms, including confirmation and location of any lift (pumping) stations, and validation of the priority investment measures for the available financing. The Consultant shall also consider whether a better, more environmentally and cost efficient solution is available through the use of more energy efficient components, for example.

The Consultant will also identify and assess the potentially significant existing and future adverse environmental and social impacts associated with the Client’s current operations and the proposed Project, assess compliance with applicable laws and 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 and the Client’s existing operations. The assessment will cover, in an integrated way, all relevant direct and indirect environmental and social impacts and issues of the Client’s operations, the Project and the relevant stages of the project cycle (e.g. pre-construction, construction, operation, and decommissioning or closure and reinstatement).

The Environmental and Social Assessment will also determine whether further studies are required, focusing on specific risks and impacts, such as climate change and human rights.

The Environmental and Social Audit is required to assess the Client’s current operations in terms of compliance with national legislation, national or local permitting requirements, the relevant provisions of the EBRD Environmental and Social Policy and Performance Requirements (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.

In addition, as part of the E&S Assessment and Audit, the Consultant will be required to undertake a Gender Assessment of the Clients operations, with respect to both services provision and employment opportunities.
APPLICABLE REQUIREMENTS

The Technical and E&S Assessment are to be carried out in accordance with:

- Applicable local, national and regional requirements, including those related with ESIs / 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. SCOPE OF SERVICES

Technical Assessment

The Consultant will:

- review the existing studies and verify the proposed investments based on their positive financial/economic gains, environmental and social/health impact, as well as on affordability for the customers;
- quantify the expected service and performance improvements of the proposed priority investment (for example, population connected to the new sewer system, reduction in non-permitted sewer overflows, reduction in biological load to the environment, etc)
- conduct its own financial analysis to obtain new data or verify the existing data, whenever necessary.
- demonstrate the financial/economic viability of the Project by means of financial projections for the 2017-2037 period for the Company. Financial projections shall include annual balance sheets, income and cash flow statements. The model shall account for fixed and variable costs;
- assess the savings in operating expenditures, if any (mainly from the energy savings) generated by potential energy efficiency measures.
- The Consultant will update the assessment of the economic cost-benefit of the proposed components to be financed via the Project. The analysis shall identify any quantifiable economic benefits and estimate non-quantifiable benefits to obtain an economic internal rate of return calculation for the project.
- The Consultant will analyse the impact of the additional grant co-financed investments on overall affordability for the lowest income deciles for which the overall investment project may not be affordable as per the findings in the Study. This shall be presented as a baseline scenario where only the loan funded components are implemented, a scenario where the Project would be implemented with only loan funding, and a scenario where the proposed grant funded investments are included as part of the Project.
- Confirm key project risks in relation to the design, delivery and operation of the priority infrastructure investment identified.
Environmental and Social Assessment

The Consultant will:

- Identify existing and Project-related environmental and social impacts and risks.
- Describe and characterise a relevant environmental and social baseline commensurate with the risks posed by the current site operations and the Project.
- 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.).
- 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.
- Undertake a gender assessment of the Client’s workforce and put forward recommendations to provide equal employment opportunities for both women and men.
- Prepare a draft Stakeholder Engagement Plan (SEP), draft Environmental and Social Action Plan (ESAP) and draft Non-Technical Summary (NTS).
- 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).
- Finalise all documentation further to the EBRD and Client’s comments.

This 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.

**TASK 1: REVIEW OF AVAILABLE DATA AND SITE VISIT**

The Consultant will review the following studies and baseline data available from the Client:

- Project conceptual report (101 pages)
- Detailed design report (64 pages)
- Environmental assessment report

Data and documentation are in English. This list is not exhaustive and the Consultant must be prepared to review, and also request, further documentation that does not appear above.

Following the review of available data, the Consultant will visit the site, to obtain any supplementary information needed to complete the E&S Assessment 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, Client or Beneficiary 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.

**TASK 2: ENVIRONMENTAL AND SOCIAL ASSESSMENT AND AUDIT**

**Environmental and Social Assessment**

*Please note that 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 Environmental and Social Impact Assessment of the Project is not required. Where available the E&S assessment should refer to (and review) the local E&S assessments 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.
- 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. In EU Member States, provide copies of permitting documents issued by Competent Authorities and opine whether the EIA screening process has met relevant EU requirements.

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.

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3 Project alternatives to include: Zero (“no project”) alternative, siting and routing alternatives, infrastructure and traffic connection alternatives, design alternatives
Baseline Conditions
The E&S Assessment will include a review of the aspects of the physical, biological and socio-economic environment likely to be affected by the proposed Project. 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 and in Annex 1b below. The Annex 1b also includes indicative guidance on the contents of the gender assessment with respect to access to and use of wastewater services, which, together with the gender assessment of the Client’s workforce, should form part of the E&S Audit and Assessment Report.

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, wastewater, a heat and electricity distribution networks, transportation access) and other associated facilities, for which the EBRD financing is being sought.

The E&S Assessment 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 and Annex 1b attached to this document.

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

- Include confirmation of whether:
  o the Project is in line with the EU Water Framework Directive;
  o the capacity of the municipal wastewater treatment plants (greenfield and/or expansions) will exceed 150,000 population equivalent;
  o the project is in compliance with the Urban Wastewater Treatment Directive (91/271/EEC), including treatment standards;
- If an EIA has been prepared under the national requirements, include a summary statement of compliance of the national EIA’s process with the EU EIA Directive, including:
  o how the project was screened by the national authorities;
  o which EIA procedure was followed;
  o how public participation process was carried out;
  o potential cumulative impacts and area of influence issues (e.g. raw material sourcing); and,
whether any impact on designated or identified nature conservation areas or other sensitive areas has been identified.

- 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 European Union environmental, social, health and safety laws, regulations and standards will be met within the framework of the proposed investment programme.
- Assess the occupational health and safety issues by the Company 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.
- Assess whether or not women would be disproportionately 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.
- In case resettlement or displacement is anticipated, the Resettlement Action Plan and Livelihood Restoration Plan shall provide provisions to compensate women as well as men for loss of livelihood, address gender issues in planning and executing the resettlement throughout the whole resettlement process (consultation and participation, resettlement planning, and resettlement and rehabilitation) in line with PR5.
- Verify and confirm to the Bank whether categorisation as “B” for the Project 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 during E&S assessment to the capacity and competency of the company 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 Greenhouse Gas (GHG) emissions reduction resulting from reduced energy consumption of the upgraded system components, and the implications for GHG emissions (positive and/or negative) of any
changes in the way waste water and sewage sludge are treated. EBRD’s methodology for the quantification of GHGs is recommended for use (see the EBRD’s website for details\(^4\)).

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 E&S Assessment, 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.

Environmental and Social Audit
The E&S Audit is required to review the current and, to a limited extent, past operational performance of the Client’s existing operations and facilities in terms of their compliance with relevant national environmental laws and regulations and EBRD PRs, including relevant EU environmental standards and guidelines.

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

- A review of the Company’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 in the Company; 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 in the Company;
- 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

\(^4\) EBRD’s GHG Assessment Methodology can be found at [http://www.ebrd.com/downloads/about/sustainability/ghgguide.pdf](http://www.ebrd.com/downloads/about/sustainability/ghgguide.pdf)
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 the Company’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 company 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 the Company’s facilities;
- Other construction related impacts (aerosol emission, dust, temporary severance to traffic, water cuts, others);
- Overview of current Client’s policy and procedures regarding land acquisition (compensation policy, consultation activities related to land acquisition including grievance management, if applicable);
- Review the Client’s 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 the Client’s supply chain (e.g. suppliers of main materials and resources including energy; presence of women-owned businesses) 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 the Company’s main stakeholder groups and current stakeholder engagement activities in line with PR10.
- 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.

4. IMPLEMENTATION ARRANGEMENTS AND DELIVERABLES

DELIVERABLES

The Consultant will submit the following deliverables in English to the Bank’s OL:
1. Summary of Key E&S Findings – within 2 weeks of the Assignment Start Date
2. Technical and Financial/Economic review report
3. Draft Environmental and Social Audit and Assessment Report, which includes a PR compliance table (see Annex 1) – within 6 weeks of the Assignment Start Date
4. Draft Environmental and Social Action Plan (ESAP) (see Annex 3) - within 6 weeks of the Assignment Start Date
5. Draft Stakeholder Engagement Plan (SEP) (see Annex 4) – within 6 weeks of the Assignment Start Date
6. Draft Non-Technical Summary (NTS) for disclosure to the public (see Annex 5) – within 8 weeks of the Assignment Start Date
7. Final documentation - within 2 weeks of receiving the Bank’s comments on the draft versions. The final versions of the SEP and NTS will be translated Arabic.

**REPORTING**

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 and Annex 1b below 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 drinking water, 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 the Client 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.

**Stakeholder Engagement Plan (SEP)**
The Consultant shall prepare a draft SEP in compliance with the PR10. The scope and level of detail of the SEP will be scaled to fit the needs of the Project and the objectives of EBRD 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. Please add the following disclaimer in all deliverables produced under this Assignment:

Please be advised that the report has been prepared exclusively for EBRD. EBRD makes no representation or warranty, express or implied, as to the accuracy or completeness of the information set forth in this report. EBRD has not independently verified any of the information contained in the report and EBRD accepts no liability whatsoever for any of the information contained in the report or for any misstatement or omission therein. The report remains EBRD’s property.

**IMPLEMENTATION ARRANGEMENTS**

The Consultant will report on all aspects of the Assignment to the Bank’s Operation Leader (the OL) and the Bank’s Environmental and Sustainability Department representative, based at EBRD headquarters in London; and liaise with the Client.

OL: Hamza Al-Assad (AlAssadH@ebrd.com)
Environment: James Lea-Cox (lea-coxj@ebrd.com)
The Client will provide the Consultant with access to, or copies of all, relevant information (all or most in English although some are expected to be in Arabic). The Consultant will make a detailed review of this information, either in the local language, or by translating, or agreeing with the Client the translation of, the information into English. The Consultant will bear the cost of any necessary translations.

The Consultant will be expected to work with a variety of stakeholders.

The EBRD’s Resident Office in Amman shall be the point of contact for logistical issues (tel) +962 65635033.

- Social specialist with previous professional experience in Jordan and/or countries with similar conditions, including public consultation in the local context, gender expertise, and/or resettlement expertise, as required
Annex 1b. Environmental baseline conditions for water and wastewater projects

1. Potable Water Supply and Distribution

The Consultant will draw primarily on existing sources of information though reasonable effort should be made to verify the validity of this. The Consultant should aim to collect sufficient information on the environmental baseline of the project so as to allow for subsequent monitoring and evaluation of the Company’s environmental performance and the environmental impact of the project using the key E&S impact and performance parameters. The following information is required at a minimum (the majority of this information has to be already analysed as part of the baseline study task).

(i) Water Sources

- The nature of catchment (watershed) area management, in particular, the level of protection offered to the quality and quantity of source waters (e.g. from uncontrolled/untreated discharges, run-off from agricultural land, groundwater contamination, over-abstraction, etc.).
- Description of water sources (amounts, seasonal variations, and water quality vis a vis current national and EU standards).
- Based on available information on the impacts of the predicted climate change on water resources in <Country>, such as <Country>’s National Communication to the UNFCCC, assess the vulnerability to climate change impacts of the Company’s water resources and water supply infrastructure in medium-to-long-term, as well as where relevant, make recommendations for improving the project’s and the Company’s operations’ resilience to climate change risk;
- Main industrial users and polluters in the catchment area.
- Current water quality monitoring of source waters: standards, nature and frequency.
- Measures required or being considered to enhance the quality and quantity of water sources in the catchment area.

(ii) Consumer Demand

- Estimation of existing and future demand for water supplies by sector (domestic, commercial, public, industrial, including survey of major water users, particularly industry); conflicting demands (present and future).
- Domestic water consumption (per capita); comparison with consumption levels in Western Europe.

(iii) Water Treatment and Distribution Network

- Type and quantity of chemicals used for drinking water treatment; chemicals handling, storage, use and final disposal, contingency planning and emergency response;
- Quality of service provided: biological, physical and chemical quality of potable water provided in comparison with national and EU environmental standards;
- Effectiveness and adequacy of water treatment technology used and a general assessment of whether the existing technology meets existing international best practice for water treatment;
- Identify and assess the risks of potential environmental liabilities associated with past and current operations;
• Any environmental or worker and public health and safety issues associated with current operations;
• Anticipated environmental and worker and public health and safety benefits which are likely to arise from project implementation;
• Any actions required to meet applicable national and EU standards. Benchmark the current drinking water against national normative requirements and EU standards for drinking water quality. Provide an estimate of the investment costs needed to bring the facilities and operations in compliance with (i) national and (ii) EU standards;
• Any areas for immediate improvement including, for example, efficiency improvements, emission reductions.

(iv) Hot Water Distribution Network (if applicable)
• Assess any environmental or health and safety issues associated with hot water distribution and identify any potential mitigating measures.

2. Wastewater Collection, Treatment and Discharge

The Consultant will collect and evaluate the available data related to the volumes of wastewater and storm-water generated in the catchment area, methods of effluent treatment and quality and quantity of wastewater released (with or without treatment) to the environment. The adequacy of the current wastewater treatment and sewerage systems and their management with respect to existing and predicted future demand needs also to be considered. The Consultant should aim to use sufficient information on the environmental baseline of the Project to allow for subsequent monitoring and evaluation of the Company’s environmental performance and the environmental impact of the Project. The following information is required at a minimum, the majority of this information has to be already analysed as part of the baseline study:

(i) Wastewater Sources
• the number of people served by wastewater network, the number of households/persons served by septic tanks;
• other industrial, commercial, official and public generators of wastewater, to the extent allowed by available information;
• wastewater flows and characteristics: total and per capita flows, organic loads or other important characteristics of wastewater; if applicable, distinguish between industrial and other wastewater sources; frequency and magnitude of storm-water overflows and water bodies to which they flow, and infiltration of wastewater flows into the water supply network. A discussion of the possible implications for groundwater pollution of areas not connected to wastewater collection (if applicable);
• industrial wastewater flows from the main industrial sources in terms of flow volumes and chemical/physical characteristics with special emphasis on toxic/hazardous pollutants discharged into the municipal wastewater collection system to the extent allowed by available information;
• an analysis of the adequacy of pre-treatment of industrial wastewaters vis a vis the efficiency of wastewater treatment: a description of the effectiveness and adequacy of industrial pre-treatment facilities, the impact of industrial wastewater on municipal wastewater treatment plant operation;
• a description of the monitoring of wastewater and effluent flows and quality: a description of the standards and practices used, laboratory capacity.

(ii) Wastewater Collection Network
• a description of existing wastewater collection system, including sewage pumping stations and sewerage network;
• an estimate of the condition and effectiveness of the system;
• a review of any potential environmental and/or health issues associated with the system.

(iii) Wastewater Treatment Processes, Sludge Management and Disposal
• a description of current wastewater treatment processes, including sludge management (treatment and/or disposal) commenting on process efficiency at various stages vis a vis industry norms and outline possible causes of under-efficiency. If applicable, an analysis of the impacts of industrial wastewater on municipal wastewater treatment plant operation, highlighting the adverse effects of any industrial effluents (if data on industrial effluents is available), which may impact microbial processes;
• benchmark the current wastewater discharges against national normative requirements and EU standards for urban wastewater discharges. Provide an estimate of the investment costs needed to bring the facilities and operations in compliance with (i) national and (ii) EU standards;
• a description and analysis of sludge management (temporary storage, handling, collection, treatment and final disposal): condition, maintenance practices; assess whether their efficiency and whether they currently meet national requirements; compare with EU requirements, highlighting adverse effects of any industrial effluents on the sludge quality which may cause the sludge to be classified as hazardous waste and set specific requirements for the disposal and treatment of the sludge;
• assess ability to utilize sludge in agriculture (refer to relevant national requirements and EU Directive), to recycle the sludge for other type of utilisation and to produce methane for heat production;
• quality of effluent discharge consistency over a three year period and comparison with current national and EU standards;
• worker and public health and safety issues associated with current operations, safety equipment and practices (inoculations, health checks, protective wear, toxic/explosive gases);
• an analysis and assessment of the impact of effluent and untreated wastewater discharges (if applicable) and storm water overflows on receiving water body quality with special emphasis on impacts of industrial hazardous and toxic pollutants, analysing compliance with applicable effluent standards and applicable regulations;
• a description of monitoring of wastewater and effluent quality; a description of standards and practices, an outline of emergency and contingency plans in relation to process breakdown, storm water overflow, etc.

3. Gender Assessment with respect to access and use of wastewater services
Men and women often vary in terms of their roles, needs, perceptions and preferences regarding water and wastewater service provision. This might be particularly true in Jordan where female labour force participation is extremely low, which confines women disproportionally to unpaid household activities, whether it is cleaning, washing and cooking or agricultural field work, all of which are water-intensive. Despite women’s overall household management of water, men are more likely to be responsible for decisions regarding purchase of water or water-saving devices or paying the bills and also tend to be the main point of contact for water utility companies.
A gender sensitive approach to access to and use of water and wastewater services is central to ensuring municipal services respond to the unique needs of women and men. Taking gender considerations into account leads to benefits that go beyond project performance related to the provision of wastewater services. Such benefits may include improved procurement, operation and maintenance, cost recovery and hygiene awareness, in addition to the socio-economic benefits, such as better access to water and sanitation gives women and men more time for income generating activities, meeting the needs of family members and/or their own welfare. Therefore, water and wastewater projects that address gender inequalities and differences in perspectives and uses can enhance both water resources management and human development opportunities for both men and women. Furthermore, it can benefit the provider as the greater number of clients is pleased with a service, the more likely they may be to pay for the service.

The gender assessment should cover the preferences and priorities of women (local as well as refugees) for water and wastewater services and may include, but not be limited to:

- Perceptions of access, quality and affordability of wastewater services
- Sanitary arrangements and routines
- Location of sanitation services
- Health and safety concerns
- Knowledge of water and water-related institutions in the community
- Preferences for an appropriate format for effective stakeholder consultations
- Views of the benefits of improved sanitation services for accessing employment opportunities (i.e. time saved that can be used on productive activities).

Also, the Consultant will assess the Company’s knowledge, capacity, policies and practices regarding the provision of gender-sensitive services (e.g. the Client’s capacity and practice to collect and analyse customer needs by sex and the evidence of incorporating gender perspectives into the services design and provision; gender focal point/relevant unit responsible for social/gender issues within the Client; gender-sensitive stakeholder engagement, etc.).

The Consultant will conduct analysis based on available public and the Company data. For example, the Consultant will identify if there has ever been a customer opinion survey conducted by the Client, which provides sex-disaggregated data; if there exists information on customers collected by the Company, e.g. complaints lodged by sex, etc. and if such data exists, undertake analysis of this information. The above topics suggested are provided only as indicative guidance. The Consultant is expected to use their professional experience in this subject area to determine the final succinct but comprehensive content of the gender assessment.