

TERMS-OF-REFERENCE (TOR)
CONSULTING SERVICES FOR THE DESIGN OF A SMART STREET LIGHTING
SYSTEM AT THE JOHN HAY SPECIAL ECONOMIC ZONE (JHSEZ)

1. BACKGROUND

Camp John Hay is one of the most visited tourist destinations located north of Manila and home to several business enterprises. A vital infrastructure component of any area with a high volume of vehicle and foot traffic is a street lighting system.

Based on the Comprehensive Integrated Master Development Plan (CIMDP), Smart Infrastructure Aspirations are identified as developments for the master plan for Camp John Hay. Smart technologies leverage realtime data to swiftly adjust its physical, digital elements for a safer, more efficient, and functional urban environment with tangible benefits to quality of life.

2. PROJECT LOCATION

The smart street lighting system shall be designed for the following thoroughfares:

- a. Along the Ordonio Drive- Sheridan Drive- Lawton Drive;
- b. The intersection of Ordonio Drive towards Historical Core;
- c. The intersection of Sheridan Drive towards the JHMC Office Complex; and
- d. The secondary road towards the Baguio Grafix Hotel.

Reference layout plans (Annex “A”) will be provided by JHMC, however, these layout plans shall serve as references only. JHMC does not guarantee that the plans are fully correct, updated, and applicable to the project at hand. The prospective bidders are responsible for the accuracy and applicability of all data.

3. SCOPE OF CONSULTING SERVICES

3.1 Project Scoping - defining and documenting the project goals, deliverables, tasks, deadlines, costs, and boundaries. It involves collecting and analyzing information to provide useful insight for the project going forward. It typically occurs before a project plan and can help decide whether the project is worth doing or not. It also allows for assigning resources, forming a reasonable timeline, and providing direction for the project team. Project scoping may involve changes throughout the planning and execution stages and should address key stakeholders, processes, assumptions, and constraints.

3.2 Pre-Design Phase – establishes the general size and scope of the project. The services shall not be limited to reconnaissance, topographical and other engineering and land surveys, soil investigations, preparation of preliminary architectural and engineering designs, layouts, outline specifications, preliminary cost estimates, cost-benefit analysis, Return of Investment (ROI), and specific recommendations prior to actual design;
The Pre-Design Phase shall incorporate an applicable and sustainable smart street lighting system adaptable to the JHSEZ’s environment and weather conditions.

3.3 Features of smart streetlights:

While the features of smart streetlights depend on the specific technology currently available, the following common functionality shall be considered in the pre-design phase. However, the hereunder listed features shall not limit the consultant from proposing other applicable features.

- dynamic lighting controls based on movement detection;
- environmental and weather monitoring;
- digital signage that can update as needed, such as parking regulations or accident alerts;
- parking management, such as alerting officials of illegally parked vehicles;
- extended cellular and wireless communications;
- traffic management through real-time data feeds that track congestion and speed; and
- automatic emergency response in the event of a car crash or crime.

3.4 Detailed Design Phase – includes the finalization and presentation of the detailed plans, designs, working drawings, specifications, and detailed cost estimates.

3.5 Support Services during Construction – includes assistance and advice in the analysis of bid results, making recommendations on the award of construction contracts, and preparing formal contract documents; preparation of supplementary drawings required to suit actual field conditions; checking detailed construction and as-built drawings, shop and erection drawings submitted by contractors; making periodic visits to check on the general progress of work and quality of materials and workmanship; observing performance tests and start-up and making report thereon; and making a final inspection and reporting of the completed project.

4. MINIMUM REQUIRED KEY PERSONNEL AND THEIR QUALIFICATIONS

The firm shall assign the following key personnel to the project:

4.1 One (1) Electronics and Communication Engineer registered with the Philippine Regulations Commission (PRC) with a minimum practice/experience of five (5) years in the design and analysis of a smart street lighting system. Said professional shall be the Team Leader;

4.2 One (1) Systems Analyst with a minimum practice/experience of five (5) years in the analyses, design, implementation, and maintenance of IT and information systems. The position shall review JHMCs existing IT and communication/information systems and recommend the appropriate upgrades or changes to ascertain seamless connectivity between the proposed smart streetlight system and the JHMCs system and/or the proposed Command Center. The analyst shall also advise on which software programs to use, communicate with users, and produce cost analyses of IT initiatives;

4.3 One (1) Professional Electrical Engineer (PEE) registered with the Philippine Regulations Commission (PRC) with a minimum practice/experience of five (5) years in the design and analysis of a streetlight system;

4.4 One (1) Junior Electronics and Communication Engineer registered with the Philippine Regulations Commission (PRC) with a minimum practice/experience of three (3) years in designing and analyzing a smart street lighting system.

- 4.5 Survey Team - composed of a Geodetic Engineer with a minimum practice/experience of three (3) years in surveying works and two (2)- Survey Aides; and
- 4.6 One (1) CAD Specialist with a minimum of three (3) years of practice/experience in AutoDesk software or its equivalent.

The Consultant shall not be precluded to increase the key personnel as deemed necessary to meet the requirements of the Terms of Reference at its own expense.

5. RESPONSIBILITIES OF THE CONSULTING FIRM

5.1 The Consultant shall conduct the following:

- 5.1.1 Preliminary Investigation of the project site. These shall include, among others, information on soil, geotechnical, and environmental conditions that shall be used to define the project design of the smart street lighting system and to set the basis for the financial proposal of the prospective bidders for the infrastructure component.
- 5.1.2 Preliminary Survey and Mapping. These shall determine boundaries and provide stationing along control lines to establish feature and design criteria location and identify existing and future right-of-way limits and construction easements associated with the project.
- 5.1.3 Preparation of Detailed Architectural and Engineering Design (DAED). Upon award of the design contract, the winning bidder shall be responsible for the preparation and submission of all necessary and applicable documents such as detailed architecture and engineering investigations, surveys, and designs as stated hereunder. JHMC has the right to require other documents as it may deem necessary.
 - a) Site Investigation Report;
 - b) Soils and Foundation Investigation Report;
 - c) Construction Materials Investigation Report;
 - d) Design Plans for the Smart Street Lighting System and Command Center;
 - e) Technical Specifications;
 - f) Bill of Quantities and Cost Estimates;
 - g) Program of Work;
 - h) Proposed Construction Schedule and estimated Cash Flow;
 - i) Site or Right-of-Way Plans including Schedule of Acquisition (if applicable);
 - j) Utilities Relocation Plan;
 - k) Design Report;
 - l) Construction Safety and Health Program;
 - m) Projected monthly consumption and equivalent costs for the streetlighting;
 - n) Value Engineering Studies, if applicable

5.2 Other design considerations.

- a) There shall be no cutting of Benguet Pine Trees. However, Benguet Pine Trees having a diameter at breast height of 15 centimeters and smaller may be earth balled subject to existing laws or regulations of the Department of Environment and Natural Resources (DENR);
- b) Seamless connectivity of the system to a proposed Command Center at the JHMC Office Complex.

5.3 Any errors, omissions, inconsistencies, inadequacies, or failures submitted by the winning consulting firm that does not comply with the requirements shall be rectified, resubmitted, and reviewed at the consulting firm’s cost. If the firm deems to modify any design or document which has been previously submitted, reviewed, and approved, the former shall notify JHMC within a reasonable period of time and shall shoulder the cost of such changes.

6. INDEPENDENCE OF CONSULTANTS

To ensure the consultant’s professional independence, integrity, and objectivity, consultants, as well as key staff working for the consulting entity, who may be directly or indirectly associated with non-consulting firms that may have an interest in or bias towards the project concerned, shall be selected only if they agree to limit their role to that of consultants and will disqualify themselves and their affiliates for bidding for products and services of the same government project.

7. SELECTION OF A CONSULTING FIRM

The consulting firm shall be evaluated and determined using the Quality Cost Based Evaluation (QCBE) wherein both the technical and financial proposals will be considered in the ranking of consultants.

The technical proposal shall be given a weight of seventy (70) percent while the financial proposal shall have a weight of thirty (30) percent. The overall passing rate shall be 85%.

EVALUATION CRITERIA	Weight
Technical Proposal: Applicable experiences for <u>each</u> person to be assigned to the contract. Electronics and Communication Engineer (Team Leader) No. of Years of professional experience – Maximum of 20 points <input type="checkbox"/> 5 years = 5 points <input type="checkbox"/> 6-7 years = 7 points <input type="checkbox"/> 8-9 years= 9 points <input type="checkbox"/> 10 years and above = 20 points	70%

<p>System Analyst No. of Years of professional experience – Maximum of 15 points</p> <input type="checkbox"/> 5 years = 5 points <input type="checkbox"/> 6-7 years = 7 points <input type="checkbox"/> 8-9 years= 9 points <input type="checkbox"/> 10 years and above = 20 points	
<p>Professional Electrical Engineer (PEE): No. of Years of professional experience – Maximum of 20 points</p> <input type="checkbox"/> 5 years = 5 points <input type="checkbox"/> 6-7 years = 7 points <input type="checkbox"/> 8-9 years= 9 points <input type="checkbox"/> 10 years and above = 20 points	
<p>Junior Electronics and Communication Engineer No. of Years of professional experience – Maximum of 10 points</p> <input type="checkbox"/> 3 years = 5 points <input type="checkbox"/> 4 years = 7 points <input type="checkbox"/> 5 years= 9 points <input type="checkbox"/> above 5 years = 15 points	
<p>Geodetic Engineer No. of Years of professional experience – Maximum of 10 points</p> <input type="checkbox"/> 3 years = 5 points <input type="checkbox"/> 4 years = 7 points <input type="checkbox"/> 5 years= 9 points <input type="checkbox"/> above 5 years = 10 points	
<p>CAD Specialist No. of Years of professional experience – Maximum of 15 points</p> <input type="checkbox"/> 3 years = 5 points <input type="checkbox"/> 4 years = 7 points <input type="checkbox"/> 5 years= 9 points <input type="checkbox"/> above 5 years = 15 points	
<p>Financial Proposal: The Financial Proposal shall be evaluated in the following manner: a) The consultant with the lowest price gets 100 points. b) The scores of the other consultants will be computed using the formula: $S_f = 100 \times F_l/F$, in which S_f is the financial score, F_l is the lowest Financial Proposal and F is the Financial Proposal under consideration.</p>	30%
TOTAL	100%

8. APPROVED BUDGET FOR THE CONTRACT (ABC)

The ABC for this procurement is in the amount of One Million Two Hundred Thousand Pesos (PhP1,200,000) inclusive of all applicable taxes and other remunerations.

9. PAYMENT SCHEDULE AND DELIVERABLES

The consulting firm shall be paid through progress billings with the schedule shown below. In no case shall the aggregate amount exceed the contract amount (inclusive of applicable taxes).

Deliverables	Submission Date	Percentage of the Contract Amount
1. Preliminary Investigation Report	Within five (5) working days from receipt of notice to proceed	
2. Site Survey and Mapping	Within fifteen (15) days from conduct of investigation of the project site	Maximum of Ten (10) percent
3. Submission of Preliminary Design and initial Detailed Architectural and Engineering Design (DAED) a. Preliminary Conceptual Design Plans. b. At least one (1) perspective view; c. Site Development Plan; d. Electrical Layout Plan; e. Electrical detail plans, load computations, and connections; f. One (1) section g. Design Analysis h. Value engineering analysis of design and construction method. i. A cost-benefit analysis shall form part of this phase.	Within forty 40 days from conduct of investigation of the project site	Maximum of Ten (10) percent
4. Submission of Final Design a. Final Design Plans. b. At least one (1) perspective view; c. Site Development Plan; d. Electrical Layout Plan; e. Electrical detail plans, load computations, and connections; f. At least two (2) sections g. Design Analysis h. Value engineering analysis of design and construction method.	Within sixty (60) days from approval of initial DAED	Maximum of sixty (60) percent

5. Construction Phase	Within sixty (60) days from completion of construction	Maximum of twenty (20) percent
-----------------------	--	--------------------------------

10. TYPE AND DURATION OF CONTRACT:

The contract shall be for one hundred twenty (120) days upon issuance of notice to proceed.

11. TERMINATION OF CONTRACTS

The guidelines for the termination of contracts as provided for in Annex “I” of the revised 2016 I.R.R. of R.A. 9184 shall be adopted.

12. PROCUREMENT OF CONSULTING SERVICES

The guidelines for the procurement of consulting services as provided for in Annex “F” of the revised 2016 I.R.R. of R.A. 9184 shall be adopted.

13. PAYMENTS TO THE CONSULTANT

The guidelines for the payment of consulting services as provided for in the revised 2016 I.R.R. of R.A. 9184 shall be adopted.

13.1 Advance Payment for Mobilization

The Government, as it considers fair and reasonable, may allow advance payment to the Consultant in the amount which shall not exceed fifteen percent (15%) of the contract amount to cover the cost of mobilization, subject to the posting of an irrevocable standby letter of credit issued by an entity acceptable to the agency and of an amount equal to the advance payment. The advance payment shall be repaid by the Consultant by deducting from his progress payments such sum as agreed upon during the contract negotiations until fully liquidated within the duration of the contract.

13.2 Cost of Consulting Services

All Consultancy contracts shall be fixed price contracts. Any extension of contract time shall not involve any additional cost.

