5. SECTION B - SCOPE OF SERVICES:

5.1. Background

Montgomery County Department of Transportation (MCDOT) is undertaking a project to enhance the lighting infrastructure in its parking lots and garages through advanced energy management practices and supporting the integration of energy-efficient technologies and management practices within MCDOT's existing infrastructure and systems. This initiative is part of a broader effort to ensure efficient, safe, and sustainable lighting solutions while leveraging cutting-edge technologies. The project encompasses installation, maintenance, management, and integration of LED lighting systems with modern control technologies. The Contractor will be responsible for implementing strategies, tools, and systems to monitor, analyze, and reduce energy consumption while ensuring compliance with Montgomery County's decarbonization goals. Additionally, bidders must support MCDOT's ongoing 3D scanning and digital twin initiatives, which aim to enable efficient management and interaction with MCDOT resources. The following tasks outline the key responsibilities and deliverables for bidders.

5.2. Intent

Montgomery County Government, Maryland, through its Department of Transportation, Division of Parking Management seeks a contractor to procure, store and supply, and install LED Light Fixtures for the MCDOT LED Light Replacement program through the life of this contract. The County has piloted multiple projects to establish various LED Light fixtures and has studied their performance and energy consumption. Based on this study, we established a list of LED Light Fixtures that will perform well and enable the management of energy consumption in MCDOT Parking Facilities. The list of light fixtures that will be procured, and delivered to parking management main storage facility are listed in the Quotation Sheet of this RFP document (See Attachment D).

It is the County's intent to purchase LED Light fixtures and obtain a technical PMS support of the control systems of the LED light fixtures after they have been installed. This contract mainly focuses on the replacement of existing HID, fluorescent and HPS fixtures at multiple parking garage locations in the County. Depending upon the available funding, the County may choose to increase or decrease the number of fixtures to be purchased. This solicitation is being issued by MCDOT-Division of Parking Management.

5.3 Method of assignment of work order

When Light fixtures replacement or PMS services are needed for a Project, the County will issue a Task Order for each project. The Contractor will be required to submit a proposal based on the Task Order to the Contract Administrator or designee within the deadline specified on the Task Order. The Contractor's proposal must be developed using the fixtures, materials, and labor costs listed in Quotation Sheet (Attachment D), and must be summarized by a Job Authorization Form (JAF) (Attachment E)

5.4 Scope of Services/Specifications/Work Statement

5.4.1 Purchase of new LED Light Fixtures

As per a given Task Order, the Contractor is responsible for procuring and delivering LED Light Fixtures listed in the Quotation Sheet (Attachment D) at the County parking maintenance store in Silver Spring, Maryland or to the project site as noted on the Task Order. The County may use its own crew or Contractor to install the fixtures. Unless noted on the Task Order, the Contractor has 60 days to deliver the fixtures once the Purchase Order (PO) and Notice To Proceed (NTP) for each Task Order has been issued. The Contractor may be asked to install the fixtures.

5.4.1-A. Alternative Technologies and Fixture Submittal Requirements

The County acknowledges that technological advancements and product availability may change over the duration of the contract. To accommodate such developments, the following procedure shall apply:

- **Alternative Product Submittal:**
  Should the awarded contractor wish to propose alternate technologies, fixtures, or control systems differing from those specified in Section B, the Contractor shall submit a **Proposed Fixture/System Matrix**.

This submittal must include:

- A direct **comparison** between the specified products and the proposed alternatives.
- Detailed **technical justification** demonstrating performance equivalency or superiority.
- Detailed **cost justification** illustrating any cost savings, total lifecycle value, or other economic advantages.

5.4.1-B. Minimum Requirements for Proposed Alternatives:

All proposed alternate fixtures and systems must meet or exceed the following minimum standards. Documentation from the manufacturer confirming compliance must be submitted and approved prior to any procurement action:

- **Dimming Capability:** Fixtures must be equipped with **0-10V dimming functionality**.
- **Certification:** Fixtures must be certified under the **Design Lighting Consortium (DLC)** Qualified Products List.
- **Control System Requirements:** Any networked lighting control system must be **DLC-approved** and must provide the following minimum capabilities:
  - **Site-based operation** without reliance on an internet connection.
  - **Mobile applications** support for commissioning and control functions.
  - **Individual and group fixture control** based on automated scheduling and/or sensor inputs.
  - **Secure communications** with the site controller via Wi-Fi or LAN.
  - **Automatic software updates** via encrypted over-the-air (OTA) communication.
  - **Graphing capabilities** for real-time and historical power consumption and fixture voltage data.
  - **Multi-zone fixture organization**, allowing assignment of different behaviors, schedules, and sensor-based events.
  - **Local data storage** to ensure reliability and data security independent of cloud-based systems.

5.4.1-C- Approval Process, and Price

All proposed alternate products and systems must undergo County review and receive written approval prior to acquisition, installation, or use. The replacement model must be of equal or greater quality and must offer the same or more features as the discontinued model. The replacement item shall be the same price (or less) than the discontinued model.

5.4.2 Light Fixtures System control and monitoring services.

The Contractor will be responsible for implementing strategies, tools, and systems to monitor, analyze, and reduce energy consumption while ensuring compliance with Montgomery County's decarbonization goals. The Contractor shall Furnish Photometric Analysis in both PDF and Electronic Format (Autocad, Revit or IFC Industry Foundation Classes Model). The Contractor shall provide the CV (curriculum vitae) of a qualified manufacturer representative to train MCDOT maintenance staff in the programming of the required LED light fixtures. The Division of Parking Management will provide the Contractor with access to the online depository of parking garage drawings that can be used in photometric analysis. The Contractor must support MCDOT's ongoing 3D scanning and digital twin initiatives, which aim to enable efficient management and interaction with MCDOT resources.
A task order will be issued for the following tasks and outline the key responsibilities and deliverables. The Contractor must submit the service cost proposal based on the labor cost listed in the quotation sheet. The service cost proposal should be submitted to the Contract Administrator with summary of JAF attached (Attachment E).

A) Firmware Upgrades
The Contractor will update the firmware of all networked lighting control devices to ensure compatibility with existing infrastructure and future upgrades. Firmware upgrades must be documented, including version history and upgrade schedules.
B) Device Provisioning & Configuration
The Contractor will provision and configure new IoT-enabled LED fixtures and implement control system settings to achieve optimal energy efficiency. All device configurations must be maintained in a centralized repository for future reference.
C) IoT Device Monitoring
Real-time monitoring of all LED fixtures and control devices is required. This includes identifying communication issues and generating automated alerts for malfunctions or anomalies.
D) Remote Diagnostics & Repair
The Contractor must perform remote diagnostics to identify and troubleshoot issues with fixtures and control systems. Repairs should be conducted remotely whenever feasible, and all activities must be documented.
E) Enablement application
Networked lighting systems must be integrated with MCDOT's management platforms. Advanced features, such as automated dimming and demand-response scenarios, must be enabled to optimize energy usage and enhance system functionality.
F) Data Collection & Orchestration
The Contractor will collect and analyze data on energy consumption, outages, and usage patterns. Data must be securely transmitted and stored, and monthly reports should provide insights into performance optimization.
G) Energy Management
The Contractor will develop strategies to optimize lighting schedules and settings, identify energy-saving opportunities, and align efforts with Montgomery County's decarbonization goals.
H) Training
Comprehensive training will be provided for MCDOT staff, including detailed guides and video tutorials. Periodic refresher sessions should be conducted to ensure the staff remain proficient in using the system.
I) Legacy Planning
A plan for integrating non-networked LED fixtures into the controlled system must be developed. The Contractor will document procedures for transferring maintenance responsibilities to in-house or outsourced personnel and outline a roadmap for future upgrades.
J) Specification Process
The Contractor will collaborate with MCDOT to define detailed lighting specifications that meet project objectives and adhere to County standards. This includes recommending appropriate lighting products and controls and preparing detailed specifications for procurement and installation.
K) Photometric Lighting Plan
The Contractor will create photometric lighting plans to model how light will be distributed in the space, including the impact on shadow distribution and overall illumination. Plans must ensure efficient lighting solutions that meet safety and aesthetic requirements and be provided in digital formats such as PDF and AutoCAD for review.

5.3. Contractor's Qualifications

A) Contractor must be registered within the distribution chain of major LED Light manufacturers. MCDOT is leveraging advanced technologies as part of its digital twin initiative. The Contractor must demonstrate familiarity with these technologies and be prepared to utilize them as needed to fulfill project requirements. These tools include:

- Autodesk Revit
- Procore
- Jira
- iPads

- MS Office products
- 3D Scanners
- BIM 360
- Bacnet
- RABs Light Cloud
- Lutron’s LimeLight
- Synapse lighting controls
- Mesh Networks

B) The Contractor must provide professional services for each Task Order in accordance with the terms and conditions of the Contract and each Task Order. The Contractor must act as a professional contractor to the County and must perform lighting services to achieve the County's objectives.

C) The Contractor and sub-contractor must be registered electrical contractors in the state of Maryland and must have, at minimum, five years of lighting, consulting, and assessment experience. Additionally, they must demonstrate specific knowledge of the requirements of the following:

• Montgomery County ""Building Codes and Standards" specific to lighting.
• Utility incentive programs (i.e. Pepco "Commercial and Industrial Energy Savings Program').
• Illuminating Engineering Society (IES) recommended foot-candle levels.
• ANSI/ASHRAE/IESNA Standard 90.1-2010

D) The Contractor shall provide at least one designated account manager and a technical support personnel member for the contract. The Contractor shall provide contact information for normal business hours and off-hours support. In addition, the Contractor shall provide backup contacts and their contact information.

5.4. Contractor’s Responsibilities

The Contractor is responsible for the provision of all specifications for LED Light Fixtures and accessories, for the procurement, storage and supply of LED Light Fixtures and accessories in line with the County LED Light Fixture Installation schedule, and system control. The Contractor must perform all services under the Contract and any Task Orders assigned in a reasonable, responsive and timely manner.

Key Responsibilities are:

5.4.1 Procure, Deliver, and install LED Light fixtures

- The Contractor is responsible for procuring, delivering, and installing the LED fixtures at the County’s parking facilities as directed by the task order**.**

5.4.2. Energy Data Collection and Monitoring

- Utilize IoT-enabled devices to monitor real-time energy consumption across parking lots and garages.
- Integrate energy monitoring systems with MCDOT’s management platforms (e.g., BIM 360, Bacnet).
- Establish automated alerts for abnormal energy usage or system inefficiencies.
- Maintain secure data transmission protocols to ensure integrity and confidentiality.

5.4.3. Energy Analysis and Reporting

- Analyze collected energy data to identify trends, anomalies, and opportunities for savings.
- Generate monthly and seasonal energy reports detailing consumption, costs, and greenhouse gas (GHG) emissions reductions.
- Provide recommendations for energy optimization and system improvements.

5.4.4. Energy Optimization and Management

- Develop and implement energy-saving strategies such as automated dimming schedules, demand-response scenarios, and seasonal adjustments.
- Identify and address inefficiencies in the current lighting systems, including non-functioning or outdated fixtures.

- Optimize control settings to align with County decarbonization goals.

5.4.5. Retrofitting and Integration

- Plan and execute retrofitting of non-controlled lighting systems into energy-efficient, networked solutions.
- Recommend energy-efficient lighting products and technologies based on space-specific requirements.
- Ensure seamless integration of new systems with existing platforms and workflows.

5.4.6. Training and Knowledge Transfer

- Provide MCDOT staff training on the energy management systems and tools.
- Develop training materials, including user manuals and tutorials, to enhance understanding and efficiency.
- Conduct periodic refreshers to ensure staff can adapt to system updates and changes.

5.4.7. Compliance, Legacy Planning, and Permits

- Ensure all energy management practices comply with local, state, and federal regulations.
- The Contractor is responsible for getting the necessary permits as per the required code, and regulations without any cost to the County.

5.5. County's Responsibilities

- The County team is responsible for issuing a detailed task order as per the Contract.
- The County will examine lighting assessments/proposals and documents submitted by the Contractor and reject all lighting assessments/proposals and documents that are deemed to be inaccurate and incomplete.
- The County will give access to the project location.
- MCDOT/Division of Parking Management will provide to the contractor access to the online depository of garage drawings that can be used for the photometric analysis.
- The County will create a Purchase Order based on the task order and proposal from the Contractor.

5.6. Reports/Deliverables

All standard reporting on requests for purchase, supply, confirmation of delivery of items in good condition, and warranties will be followed.

The Key deliverables are summarized here but not limited to this:

- Deliver the fixtures in a timely manner as noted above.
- Real-time energy monitoring dashboards and tools.
- Monthly energy reports with actionable recommendations.
- Retrofitting plans and cost analyses for upgrading non-controlled systems.
- Training sessions and materials for MCDOT staff.
- Comprehensive final report summarizing energy savings, system performance, and future opportunities.

5.7 Project Meetings

- Throughout the phases of the projects, the Contractor and its sub-contractors must meet bi-weekly with County representatives. Attendees shall be determined by the County representative. These biweekly meetings may occur on-site or virtually as per the discretion of the County representative.

5.8 Information Security

- The Contractor must use commercially responsible efforts to ensure that the County's information resources, including electronic data assets, are protected from theft, unauthorized destruction, use, modification, or disclosure as deemed necessary under the County's Information Resources Security Procedure (AP 6-7). To the extent the Contractor has access to the County's network or data, the Contractor must adhere to the County's Information Resources Security Procedure (6-7).

5.8.1 **The County's Information Resources Security Procedure (AP 6-7)** references the County's Administrative Procedure 6-1 (AP-6-1), Use of County-Provided Technology. AP 6-1 is included collectively in Attachment X and is incorporated by reference herein.