



## Specifications and Employer's Requirements:

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| 1.1.1 | <p><b>Plastering of Existing Room and Battery Room:</b></p> <p>The plastering of the existing room and battery room for the computer lab project shall be conducted using high-quality standard Portland cement, which should be fresh and stored in a dry environment to avoid lumps. The sand shall be clean, coarse, sharp, sourced from river beds, and free from impurities such as clay, loam, and organic materials. Water for the mix, which must be potable and clean, shall be added to create a homogeneous mortar mix in a ratio of 1 part cement to 3 parts sand by volume. This mortar should be used within 90 minutes of mixing to ensure its efficacy.</p> <p>Before the application of the plaster, the surfaces shall be thoroughly cleaned to remove any dust, loose material, or existing finishes. The walls shall then be dampened to prevent the plaster from drying too rapidly. The application shall start with a scratch coat not exceeding 10mm thick, ensuring good adhesion to the wall surface, followed by scoring for keying. The brown coat shall then be applied to achieve a total plaster thickness of 15-20mm, finished smoothly with a trowel and optionally textured as per the project requirements.</p> <p>The curing process, critical for the longevity and durability of the plaster, shall involve keeping the surface moist for at least 7 days through regular water spraying. Throughout the process, quality checks shall ensure the consistency of the mortar mix, uniform thickness, and absence of cracks or undulations in the plaster. Workers shall be equipped with appropriate personal protective equipment, including gloves, masks, and goggles, and waste materials shall be disposed of responsibly to minimize environmental impact.</p> <p>Upon completion, the plastered surfaces in both rooms shall be expected to exhibit a smooth and even finish, in line with the project's high standards for quality and aesthetics.</p> |
| 1.1.2 | <p><b>Painting of Existing Room and Battery Room:</b></p> <p>The painting of the existing room and battery room in the computer lab project shall be executed with meticulous attention to detail, ensuring a high-quality finish that complements the overall aesthetics of the space. The process shall commence with the selection of premium-grade, durable paint, suitable for the specific needs of the environment. Preference shall be given to eco-friendly and low-VOC (Volatile Organic Compounds) paints to ensure safety and environmental sustainability.</p> <p>Before painting, all surfaces shall be thoroughly prepared to ensure optimal paint adhesion and longevity. This preparation shall include cleaning the walls to remove any dirt, grease, or existing paint, followed by sanding to create a smooth surface. Any holes or cracks in the walls shall be filled and sanded to ensure a uniform texture.</p>   |



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|       | <p>A primer coat shall be applied to all surfaces prior to painting. This primer shall not only help in achieving a uniform paint application but also enhance the durability of the paint. After the primer has properly dried, at least two coats of the chosen paint shall be applied, with adequate drying time between coats. The number of coats shall be determined based on the paint's coverage and the desired final appearance.</p> <p>The color scheme for the rooms shall be chosen to create a conducive learning environment, with colors that are calming and conducive to concentration. The painting process shall be carried out with precision and care, ensuring that edges are neat and there is no paint spillage on the flooring, fixtures, or furniture.</p> <p>Finally, a quality check shall be conducted upon completion of the painting work to ensure that the finish is even and meets the high standards set for the project. Any necessary touch-ups shall be made to address potential inconsistencies, ensuring a professional and aesthetically pleasing result.</p>   |
| 1.1.3 | <p><b>Repair and Painting of Doors and Windows with Oil Painting :</b></p> <p>The repair and painting of doors and windows in the computer lab project shall involve meticulous attention to detail, aimed at restoring their structural integrity and enhancing their visual appeal. Initially, a thorough inspection shall identify areas needing repair, such as cracks, wood rot, or other damages. Any compromised wood shall be repaired or replaced, and surfaces shall be sanded to remove old paint or varnish, ensuring a smooth base for the new paint application. Gaps and cracks shall be filled with appropriate wood filler to create a uniform surface, and hardware like hinges and handles shall be checked and replaced or repaired as necessary.</p> <p>Once repairs are completed, surfaces shall be cleaned of dust and debris before applying a primer specifically formulated for oil paint. This primer layer shall enhance the paint's adhesion and add a protective layer to the wooden surfaces. The chosen high-quality oil paint, selected for its durability and resistance to environmental factors, shall then be applied in at least two coats. The color shall be chosen to complement the building's aesthetic, and each coat shall be allowed to dry thoroughly to ensure even coverage and a professional finish.</p> <p>Special care shall be taken to ensure a smooth application without brush marks or drips, paying close attention to achieving a uniform and aesthetically pleasing finish. Post-painting, a thorough inspection shall ensure that the quality meets the project's high standards. Any required touch-ups shall be conducted to perfect the appearance.</p> <p>Throughout the process, cleanliness shall be maintained to avoid paint spills and drips. Upon completion, a final cleanup shall remove any residual paint or materials, leaving the site in pristine condition. Maintenance recommendations shall be provided to extend the longevity and appearance of the newly painted doors and windows, ensuring they remain a visually appealing and functional aspect of the computer lab for years to come.</p> |
| 1.1.4 | <p><b>PCC for Floor of Computer Lab and Battery Room, T=5cm:</b></p> <p>The construction of the Plain Cement Concrete (PCC) floor for the computer lab and battery room shall be executed with a focus on creating a robust and durable surface. The PCC floor shall be designed with a thickness of 5cm (50mm) to ensure adequate strength and longevity for the intended use of the spaces. The concrete mix used for the PCC floor shall have a specified strength of 15 MegaPascals (MPa), which is suitable for the load requirements and usage of the computer lab and battery room.</p>   |



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|       | <p>In this construction process, no steel reinforcement shall be used, as the PCC floor is intended to provide a solid, flat base for subsequent flooring materials or finishes. The concrete mix shall consist of standard proportions of high-quality Portland cement, fine and coarse aggregates, and water. The aggregates shall be well-graded and free from any deleterious materials, ensuring a consistent and reliable mix.</p> <p>The preparation of the site for the PCC flooring shall involve ensuring a clean and level substrate. Any debris, loose material, or dust shall be removed to create a suitable base for the concrete. The concrete shall be poured evenly across the floor area and leveled meticulously to achieve a flat surface. During the curing process, the concrete shall be kept moist to prevent premature drying and cracking, ensuring the development of its full strength.</p> <p>Upon completion of the pouring and initial setting of the concrete, the surface shall be smoothed to achieve the desired finish. The PCC floor shall then be allowed to cure for an appropriate duration before any further construction activities or installation of flooring materials are carried out on it.</p> |
| 1.1.5 | <p><b>Supply and installations of "Made in China" Suspend Ceiling:</b></p> <p>The project shall incorporate the supply and installation of a "Made in China" suspended ceiling for the computer lab and battery room. This suspended ceiling, chosen for its blend of quality shall be fitted in accordance with the manufacturer's specifications to ensure optimal performance and durability. The installation process shall be straightforward, focusing on precision and adherence to safety standards. The chosen ceiling system shall not only enhance the aesthetic appeal of the rooms but also contribute to better acoustics and overall functionality of the space.</p>  |
| 1.1.6 | <p><b>Supply and Installation of Security Grill for Windows and Door of Existing Room:</b></p> <p>For the existing room in the computer lab project, the contractor shall supply and install security grills for the windows and doors, crafted from high-quality rebars sourced from the local market. These grills shall be fabricated and installed in strict adherence to the specifications and patterns outlined in the architectural drawings, ensuring both robust security and aesthetic coherence with the building's design. The construction process shall focus on precise welding and assembly, and the grills shall receive a protective finish to guard against rust and corrosion, enhancing their durability. This integration of functionality and design, coupled with the support for local businesses through the sourcing of materials, exemplifies our commitment to quality and community engagement in the project.</p>  |
| 1.1.7 | <p><b>Supply and Installation of Carpet for Floor of Computer Lab:</b></p> <p>The supply and installation of the carpet for the floor of the computer lab shall include new "MOKIT" brand carpets, which are Made in China and available in the local market.</p>  |
| 1.1.8 | <p><b>Supply and installation of Surface Mounted LED Lighting Fixtures Die (600x600x76) mm, Min. 100-277V, 50Hz, 20-30W, Min, 135Lumens/Watt, Industrial Grade:</b></p> <p>The supply and installation of surface-mounted LED lighting fixtures for the project shall involve new, industrial-grade units, with dimensions of 600x600x76mm. These fixtures will be either Made in China or Made in Iran, as available in the local market. The specifications for these LED lights will include a minimum voltage range of 100-277V and a frequency of 50Hz, with a power consumption of 20-30W. They will have a minimum luminous efficacy of 135 Lumens/Watt, ensuring high efficiency and brightness suitable for the computer lab's requirements. This choice of lighting fixtures is aimed at providing optimal illumination while being energy efficient and durable for long-term use.</p>  |



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| 1.1.9  | <b>Toggle Switches, Single Pole, three way 10A, Heavy Duty:</b><br>Made in China or Made in Iran.  |
| 1.1.10 | <b>Toggle Switches, two-way, 10A, Heavy Duty:</b><br>Made in China or Made in Iran.  |
| 1.1.11 | <b>Schuko CEE7 Sockets, 16A, Commercial Grade, GFCI Receptacles, 10mA Trip, including Standard Surface Mounted Type Boxes as per Manufacturer's Instruction, Min. 230V, 50Hz:</b>  |
| 1.1.12 | <b>Wire brown of 1x4.0sq.mm, Copper,</b>   |
| 1.1.13 | <b>Wire blue of 1x4.0sq.mm, Copper,</b>  |
| 1.1.14 | <b>Wire Green/yellow of 1x4.0sq.mm, Copper,</b>  |
| 1.1.15 | <b>Wire brown of 1x10.sq.mm, Copper,</b>   |
| 1.1.16 | <b>Wire blue of 1x10.sq.mm, Copper,</b>  |
| 1.1.17 | <b>Wire Green/yellow of 1x10sq.mm, Copper,</b>   |
| 1.1.18 | <b>supply and installations of PVC duct 25mmx45mm</b>  |
| 1.1.19 | <b>supply and installations of PVC duct 25mmx25mm</b>  |
| 1.2.1  | <b>supply and installations of white board (2*1 m)</b>   |
| 1.2.2  | <b>Supply and installations of LCD 40 inch</b>   |
| 1.2.3  | <b>Supply and installations of Desk</b>  |
| 1.2.4  | <b>Supply and installations of Chairs</b>  |
| 1.2.5  | <b>Supply and installations of one small desk for teacher/trainer</b>  |
| 1.3.1  | <b>Supply and installations of HP Elite Desktop PC Computer Intel Core i7 3.1-GHz, 8 GB Ram, 1 TB Hard Drive, DVDRW, 16 Inch LCD Monitor, Keyboard, Mouse, Wireless WIFI, Windows 10 (Renewed)</b>   |
| 2.1.1  | <b>Supply and installations of Electrical solar Data at STC Maximum power(PMAX)550Wp, Voltage at Maximum(VMPP) 41.96V,Current at Maximum power(IMPP)13.11A,Short Circuit Current (ISC)14A,Panel Efficiency 21.3%,Power Tolerance (Positive)+ 0.5 %</b> |



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| 2.1.2 | <p><b>Supply and installations of 12kw Lux power Hybrid LXP</b></p> <p><b>LXP Hybrid 12kw Best Battery Inverter</b></p> <p><b>Battery Inverter Performance</b></p> <p><b>Battery for inverter have more Stronger UPS, max. 250A discharging current</b></p> <p><b>200A pass through relay to EPS, easy installation</b></p> <p><b>Plug &amp; Play, seamless switching under 10ms</b></p> <p><b>Normal 230, 240V, split phase 120/240, 120/208V, 100/200V available</b></p> <p><b>Battery Inverter advanced parallel, up to 120kW</b></p> <p><b>Host inverter automatically generated to manage entire system when parallel</b></p> <p><b>Solar battery power inverter Easy to use with battery, can work with low voltage and high voltage battery.</b></p> <p><b>Battery Inverter advanced parallel, up to 120kW</b></p> <p><b>AC coupled function Separate generator interface Battery inverter work with utilities to intelligently manage the battery and save bills 97.2% Europe Efficiency 96.7% Max Efficiency PV to Grid 94.7% Max Efficiency Battery to Grid 99.9% MPPT Efficiency</b></p> |
| 2.1.3 | <p><b>Supply and installations of The 12V 300Ah LifePO4 battery is the perfect battery for small families, campers, RVERS, boaters, off-grid solar users, and golf carter. This portable LifePO4 battery provides safety in a transportable machine without leaking caustic liquids or hazardous gas. From the mountains to the oceans, our 12V 300Ah LifePO4 battery has you covered. It's never been this easy to create superior power while adventuring:</b></p> <p>The supply and installation of the 12V 300Ah LifePO4 battery shall cater to the diverse needs of small families, campers, RVers, boaters, off-grid solar users, and golf cart enthusiasts. This portable LifePO4 battery is engineered to ensure safety, eliminating the risks of leaking caustic liquids or hazardous gases, making it ideal for transportable applications. Versatile in its use, the 12V 300Ah LifePO4 battery shall provide dependable power across various environments, from the mountains to the oceans, facilitating effortless access to superior power for diverse adventuring needs.</p>         |
| 2.1.4 | <p><b>supply and installations of Surface Mounted Panel Board including 1x40A, 3P Main Breaker (MCCB), 8x20A, 2x16A MCB Breakers IP54:</b></p> <p>Made in Iran or Made in Pakistan.</p>   |
| 2.1.5 | <p><b>Supply and Installations of Battery Rack Shelves Metals Box 2mm for Six Batteries:</b></p> <p>The project entails the supply and installation of metal battery rack shelves, specifically designed to accommodate six batteries. These rack shelves will be constructed from 4mm thick iron profile, ensuring they are robust enough to bear the weight of the batteries. Additionally, each shelf in the rack will be fitted with a wooden plate on the floor, providing a stable and secure base for the batteries. This combination of iron profile and wooden plates is aimed at optimizing the strength and durability of the racks, making them well-suited for the specific demands and load requirements of the battery storage system.</p>   |
| 2.1.6 | <p><b>Supply and Installations of Six PV Solar Panel Brackets with all Accessories:</b></p> <p>The project includes the supply and installation of six PV solar panel brackets along with all necessary accessories, where these brackets will be made from iron profile. Sourced from the local market, these brackets are designed for strength and durability. They will be simple and static, not rotational, adhering to common market standards and ensuring suitability for typical solar panel installations. The focus during installation will be on securing the panels effectively, ensuring optimal alignment and stability to maximize the efficiency and longevity of the solar energy system.</p>   |



## Employer's Requirements:

**Scope of Statement:** The project initiated by the Community Development and Environmental Protection Organization (CDEPO) for establishing a Computer Lab at Shaheed Abdul Kabir High School in Waghaz District of Ghazni Province is an extensive undertaking involving various construction, installation, and renovation tasks, each defined by specific requirements and standards.

**Plastering and Painting of Existing Room and Battery Room:** The plastering work involves using high-quality Portland cement and riverbed-sourced sand to create a homogeneous mortar mix. The surfaces are prepared meticulously to ensure proper adhesion of the plaster, which is applied in stages to achieve a smooth finish. The painting work is carried out with eco-friendly, low-VOC paints, emphasizing environmental sustainability. The preparation of the surfaces includes cleaning, sanding, and filling cracks to ensure uniformity. The application of primer and at least two coats of paint is carefully managed to achieve an aesthetically pleasing look.

**Repair and Painting of Doors and Windows:** The project involves repairing and repainting doors and windows using high-quality oil paint. The repair process includes filling cracks, sanding surfaces, and replacing damaged hardware. The application of primer and paint is meticulously done to enhance the visual appeal and ensure durability.

**PCC for Floor:** The construction of Plain Cement Concrete flooring in the computer lab and battery room is executed with a focus on robustness and durability. A 5cm thick PCC floor is laid down, using a 15 MPA concrete mix, providing a solid foundation for subsequent activities.

**Supply and Installations:** The project includes the supply and installation of various components, such as 'Made in China' suspended ceilings, security grills for windows and doors, carpets, LED lighting fixtures, and solar panel brackets. Each of these components is chosen for its quality, functionality, and alignment with the project's aesthetic and practical needs. The installation processes are conducted with precision and adherence to safety standards.

**Electrical and Solar Installations:** The project also involves the installation of toggle switches, Schuko CEE7 sockets, wires, PVC ducts, whiteboards, LCD screens, desks, chairs, desktop computers, solar panels, battery inverters, and LifePO4 batteries. Each component is selected for its quality and suitability for the project's specific requirements, ensuring functionality and efficiency.



**Comprehensive Scope and Eligibility:** The comprehensive scope of the project entails not just the physical construction and installation tasks but also the management and monitoring aspects. The contractor is responsible for adhering to the project timeline, maintaining safety standards, and ensuring the quality of work. Regular progress reports to CDEPO's project manager are mandatory.

The project, funded by the United Nations Development Programme (UNDP), invites bids from eligible national/domestic construction companies registered with the Ministry of Commerce, Afghanistan (ACBR). The bidding process is outlined in detail in the Request for Proposal (RFP) document, guiding prospective bidders on the requirements, submission process, and evaluation criteria.

**Evaluation and Qualification Criteria:** Bids are evaluated based on technical and financial aspects, with technical evaluation encompassing the company's experience, understanding of requirements, implementation capacity, and financial stability. Financial offers are assessed for cost realism and market relevance.

**Payment Terms and Legal Compliance:** Payment for the project is milestone-based, with specific percentages of the total contract value allocated for different completion stages. The contractor must factor in the 4% Business Receipts Tax (BRT) in their pricing, with CDEPO deducting 2% tax from this amount.

**Confidentiality and Compliance:** Bidders are bound by confidentiality agreements, ensuring the proprietary information in the RFP is not disclosed or misused. Compliance with legal and regulatory obligations is paramount throughout the project.

In conclusion, the project encompasses a broad range of tasks, each critical to the successful establishment of the computer lab. The focus on quality, environmental sustainability, safety, and adherence to strict standards and timelines underscores CDEPO's commitment to delivering a project that not only meets but exceeds expectations. The contractor's role is pivotal, requiring a comprehensive understanding of the project's objectives, meticulous planning, and execution, and a commitment to maintaining high standards of workmanship and safety.

**Contractor's Responsibilities and Compliance:** The contractor, tasked with bringing this vision to fruition, is responsible for the meticulous execution of the project within a stipulated 40-day period. This includes the procurement of materials, which must be pre-approved by the employer to ensure compliance with the project's standards. The contractor is also accountable



for the safety and security of their team and suppliers, underlining the project's emphasis on maintaining a safe work environment.

In addition to these responsibilities, the contractor is required to provide weekly progress reports to the project manager, ensuring transparency and consistent communication throughout the project's duration. This reporting is crucial for monitoring the project's progress and addressing any issues or deviations from the plan promptly.

**Quality Assurance and Financial Management:** Quality assurance is a cornerstone of this project. The contractor is expected to adhere strictly to the provided specifications, Bill of Materials, and drawings. Any additional work undertaken beyond the agreed scope is deemed unauthorized, with the understanding that no additional payment will be made for such work. This clause ensures that the project remains within its budgetary and operational boundaries.

From a financial perspective, the contractor is entirely responsible for their profit and loss within the project. This responsibility underscores the importance of efficient budget management and adherence to cost estimates. Furthermore, the contractor must consider the 4% Business Receipts Tax (BRT) in their pricing, with the employer deducting 2% tax from this amount, ensuring compliance with tax regulations.

**Health, Safety, and Environmental Considerations:** The project's execution is not only measured by its adherence to technical specifications but also by its alignment with health, safety, and environmental standards. The contractor is expected to employ best practices in all aspects of construction and installation, ensuring that the work environment remains hazard-free and that the project's environmental footprint is minimized.

**Conclusion:** In summary, this project is a comprehensive undertaking that requires meticulous planning, execution, and collaboration between the contractor and the employer. The emphasis on quality, safety, and adherence to specific technical specifications, combined with stringent monitoring and reporting protocols, ensures that the project achieves its objectives within the set timeframe and budget. The contractor's role is pivotal in this endeavor, necessitating a deep commitment to quality, efficiency, and safety.