

Terms of Reference (TOR)

1. SCOPE OF WORK

1.1 General Description

The Capital Development Authority (CDA) is aggressively transforming Islamabad through its Islamabad Vision 2027 roadmap. The authority balances the rapid modernization of road networks and public transit with critical master plan modifications to address population expansion. These initiatives focus on resolving boundary overlaps, preserving the natural environment, and expediting delayed housing sector developments. Over 20 Minister's Tasks have been identified for Architectural Designing, improvement / uplifting of Building Façades, Soft & Hard Landscaping etc.

1.2 Objectives

The primary objective of the comprehensive improvement, uplifting, and soft landscaping initiatives across Islamabad is to transform the capital into a climate-resilient, visually pristine, and eco-friendly model metropolis. Driven by the Capital Development Authority (CDA) under the "Islamabad Vision 2027" roadmap, these initiatives balance rapid infrastructure expansion with environmental stewardship.

- **Intersection Upgrades:** Eliminate bottlenecks by modifying standard intersections into signal-free networks. Major completions include the Shaheen Chowk Underpass, F-8 Interchange, and the T-Chowk Flyover. Ongoing remodelling includes the critical Faizabad Interchange loops.
- **Highway Resurfacing:** The CDA has modified its budget allocation to prioritize the rehabilitation of decaying primary arterials. Overhauling of the Srinagar Highway and the Islamabad Expressway.
- **Periphery Connectivity:** Build outer transport corridors like the Margalla Avenue Extension to the M-1 Motorway and Phase 2 of the Rawalpindi-Islamabad Ring Road to divert commercial heavy traffic away from the city centre.

2. High-Rise Transition & Commercial Rationalization

The capital's urban policy is undergoing a major modification away from the traditional low-rise, horizontal sprawl model.

- **Vertical Development Objectives:** Introduce updated building bylaws to mandate vertical growth in commercial zones like the Blue Area, Mauve Area, and Zones 2 and 5. This protects valuable agricultural land around the capital from suburban expansion.
- **Parking Structure Modifications:** The CDA Board officially modified parking bylaws to allow the transition of traditional ground parking lots into multi-story public-private partnership (PPP) parking plazas. This accommodates the high density of vertical buildings.

3. Urban Regeneration & Regulating Sector Expansion

Balancing the need for affordable housing with strict legal compliance is a primary administrative objective.

- **Katchi Abadi Integration:** Implemented the ICT Urban Regeneration/Renewal Regulations. This initiative modifies the status of older, regularized slums by conducting new spatial mapping to deploy paved roads, modern sewerage

lines, and grid utilities directly into those communities.

- Stalled Sector Acceleration: Fast-track infrastructure works in long-delayed housing sectors, including Sector E-12, C-14, F-12, and G-12, to increase state-sanctioned housing supply and curb unapproved private housing schemes.

4. Eco-Preservation, Beautification & Water Reform

Preserving the micro-climate near the Margalla Hills is a central objective of Vision 2027.

- Mandatory Replenishment Ratios: Environmental impact assessments (EIAs) have been modified. Infrastructure contractors are legally bound to a 1:4 tree replacement ratio (planting 4 mature trees for every 1 removed during construction).
- Civic Greenery Overhaul: Focus on landscaped intersections, sector flower beds, and eco-friendly urban forests.
- Water Task Force: Deploy a specialized task force alongside international aid groups like JICA to overhaul municipal water pipelines, reduce distribution losses, and solve long-term water shortages.

5. Economy, Tourism & Mass Transit Extension

Islamabad is expanding its civic infrastructure to support international events and sustainable commuting.

- Green Mass Transit: A core objective is deploying and maintaining 21 functional routes of the electric bus service to shift public reliance away from private transport.
- Global Hospitality & Entertainment: Build massive public assets to encourage global business travel, including a state-of-the-art Expo Centre, a new Convention Centre for future international summits, and Pakistan's largest cricket stadium near the Margalla foothills.

1.3 Project Requirements

The Consultant shall deliver a fully operational, code-compliant, LEED-oriented, smart, and secure facility meeting international standards for all the assigned by the Authority i.e. Capital Development Authority (CDA).

All works shall comply with:

- Pakistan Building Code (PBC-2021)
- Islamabad Building and Zoning Regulations
- NFPA Codes & Standards
- ASHRAE, IBC, ACI, AISC references
- LEED v4.1 guidelines for Green Building Certification
- Accessibility standards ISO/ADA-equivalent
- PEC/PPRA procurement rules and contract conditions

Structural & Architectural Requirements

- Modern, iconic architectural design reflecting national identity and contemporary aesthetics.
- Structural design for:
 - Seismic Zone 2B (Islamabad classification)
 - High wind loads
 - Long-span steel trusses for halls
 - Heavy load-bearing floors for expo areas
- Building envelope:
 - High-performance glazing (U-value and SHGC compliant with LEED Silver)
 - Insulated façade and roof systems
 - Solar shading devices and thermal envelopes
- Accessibility
 - Universal access ramps
 - Tactile floor indicators
 - Accessible toilets and evacuation provisions

MEP, ICT & Smart Infrastructure Requirements

Mechanical (HVAC)

- Central HVAC plant with minimum ASHRAE 90.1 energy performance.
- Dedicated air handling for halls, meeting rooms, and backstage.
- Demand-controlled ventilation, CO₂ sensors, air balancing.
- Chiller plant, cooling towers, thermal storage options (if recommended).

Electrical

- Redundant power supply from two independent feeders.
- 70 % backup through diesel generator sets & UPS for critical loads.
- Intelligent lighting system (DALI/KNX) with daylight harvesting.

Fire & Life Safety

- NFPA-compliant fire alarm and suppression systems.
- Sprinklers, hydrants, fire-rated corridors, emergency voice communication.
- Smoke extraction for large-span halls.

ICT & Smart Systems

- Fully integrated Building Management System (BMS).
- High-speed fiber-optic backbone with Wi-Fi 6/6E.
- Digital signage, wayfinding, and event management systems.
- AV infrastructure for live broadcasting and hybrid conferences.

Sustainability & Green Building Requirements (LEED-Oriented)

The Consultant shall design the facility to fulfill the requirements for LEED Silver, with the following features:

Energy-efficient façade and HVAC system

- Low-flow plumbing fixtures
- Solar PV integration on rooftop or structured parking
- Rainwater harvesting & greywater recycling
- Waste segregation stations
- Green landscaping with native plants
- EV charging stations
- High indoor air quality controls

Security Requirements

Given the proximity to the Red Zone and diplomatic area, the facility shall include:

- Multi-layered access control
- CCTV coverage (minimum 4MP with night-vision)
- Vehicle screening & scanning
- Perimeter security fencing
- Bomb-proof glazing for key zones
- Safe rooms and crisis-management room

Parking & Traffic Management

- Parking bays as per site requirement (surface + basement/structured).
- Dedicated VIP / VVIP movement systems.
- Bus bays, shuttle stations, taxi drop-off loops.
- Internal traffic routing for heavy vehicles during expo setup.

Environmental & Geotechnical Requirements

- Full geotechnical study including soil profiling, bearing capacity, and seismic assessment.
- Environmental impact assessment (EIA) compliance with EPA regulations.
- Noise, dust, wastewater, and construction waste management plans.

The completed projects shall be handed over in a fully operational and ready-to-use condition, meeting the following criteria:

- Fully Functional Facility – All building systems (civil, architectural, MEP, ICT, ELV, fire & safety) must be installed, tested, commissioned, and operating as designed.
- Permits and Approvals – All statutory clearances, occupancy permits, and relevant certifications from authorities must be obtained.
- LEED & Sustainability Documentation – Complete documentation and evidence for the targeted LEED certification shall be submitted and verified.
- Warranty & Defect Liability – Clear warranty commitments for equipment, systems, and construction shall be provided, with a defined Defect Liability Period (DLP).
- Spare Parts & Maintenance Plans – Inventory of spare parts, operation manuals, and preventive maintenance schedules must be handed over.
- Turnkey Readiness – The facility shall be immediately ready for use for international conventions, expos, and high-profile events, including the SCO Summit 2027.

In summary, the facilities shall be handed over as a fully operational, safe, sustainable, and event-ready, requiring no additional work by the Employer.

The scope of the Works will include, but not be limited to:

- To undertake investigations of the project site, including topographic surveys and geotechnical investigations, Traffic study, hydrological studies, EIA report and any other study as may be required for design and construction of the project.
- Preparation of conceptual, preliminary and detailed design of the entire facility, design analysis, design calculations, construction specifications, detailed construction/working drawings and quality control procedures,

necessary for the complete design and construction of the project and as built record / drawings, final design report, project completion reports.

- The bidder shall develop concept / preliminary design with sufficient detail of all components/ facilities of the project. The preliminary design of the project shall justify rational use of land, efficient utilization of resources, environmental sustainability and preservation of natural features. The design shall be in compliance with all relevant prevailing rules, regulations and policies of the CDA, Gop and Legal Authorities. The design shall be prepared specifying generalized land use distribution right of way requirements, identification of utility corridors, proposal for efficient accessibility within the project area of housing, commercial and leisure components.
 - The preliminary design shall be carried out with sufficient detail to allow taking off the quantities from the drawings and layouts that are developed as part of this exercise to enable formulation of bid price along with breakups. The bid price & breakup shall be reasonable and justified with enough backup data. The design shall include all infrastructure components of the project as may be required e.g.;
- Roads and Pavements
 - Sewerage system, Storm water drainage system, Water supply system
 - Culverts & bridges, Raised Pathways
 - Street lights, Electrical and mechanical works,
 - Architectural drawings with 3-D views & animations
 - Boundary wall & Main entrance gates,
 - Soft and hard landscaping of the Project
 - Building management system (BMS), Security & CCTV system with control room, E-ticketing system, Development of android mobile application for online booking etc.
 - Solid waste management plan.
 - Market rates used for rough cost estimates shall be justified with rate analysis.
 - The operation, maintenance and security requirements of the project shall be identified, and a detailed estimate of O&M cost component of the project shall be developed.
- The current land use policy/ regulations, prevalent building regulations and rules shall be used for the project with respect to setbacks, floor area ratios, distances, building heights, permitted uses, permitted foundation types and proximity etc.
 - The technical bid shall be accompanied with all drawings, 3-D views, pictures, design and construction methodology, material and specifications, construction schedule

1.4 Design and Planning of the Works

General:

The Consultant shall be responsible for all design services necessary to complete the project according to the requirements indicated within the Scope of Work.

The Consultant shall visit the project site and obtain information required to complete the work and familiarize himself with the socio-political aspects of the project site.

The Consultant shall perform all necessary process & design calculations to define equipment or system requirement to demonstrate the adequacy of the proposed design and selection of related facility.

The Consultant shall establish a Quality Control/Quality Assurance program to verify that the work performed is in accordance with the requirements of the Contract.

The descriptions given in this document are outline descriptions only. Such descriptions do not include or give full details of all materials or other items to be supplied or all works and services to be executed by the Contractor in order to fulfil its obligations under the Contract.

Design:

All Design shall be performed in accordance with the requirements given in Section 2.

The Design responsibilities of the Consultant shall be as follows:

- The Consultant shall carry out the Detailed Architectural Design, 3-D views & Animations and all Engineering Design of the entire project including all works to be performed under the Contract. The Contractor shall also carry out all site investigations deemed necessary for detailed Design.
- The Consultant shall also prepare the Detailed Design of the Temporary Works to be performed under the Contract;
- The Consultant shall prepare Construction Method Statements and an Implementation Plan; and
- The Consultant shall prepare Shop Drawings of the works and equipment to be constructed/ installed under the Contract, same shall be duly vetted and verified by the Consultants.

The activities to be performed under the Detailed Design are outlined below:

- Design criteria and parameters;
- Summary of all tests and investigations carried out in connection with the Detailed Design
- Architectural drawings
- 3-D views & animations
- Structural Drawings
- Working/Construction Drawings;
- Shop Drawings;
- Site construction manuals
- Manufacturer's manuals for operation and maintenance;
- Plan for borrow areas and for disposal of spoil material;
- Health, Safety and Environmental (HSE) Plan
- Project Management Plan and Procurement management Plan
- Specifications

For each structural feature of the project, the Consultant shall provide following:

- Description of each structure;
- Design criteria
- Design drawings
- Specifications

1.5 Principal Elements of the Project

The principal elements of the Works are:

- Master plan of the project site.
- Architectural design of all project components
- Road and pavement along with pathways.
- Water supply system.
- Sewerage system.
- Storm water Drainage system.
- External Electrification and allied works as per WAPDA/ IESCO standards
- Water storage tanks and allied works (Overhead and underground)
- MEP
- Internal Electrification Design
- Provision/connectivity of external services including electricity, sewerage, water supply, storm water drainage, access road etc.

1.6 Cooperation with Other Departments, Authorities and Agencies

- The Consultant shall co-ordinate while design, execution and installation of works and co- operate with the other Departments, Public Authorities, Private Utility Companies and Agencies as instructed by the Employer.
- The Employer / Employer's Representative will hold Regular Review Meetings, as and when deemed necessary. The Contractor shall attend these Meetings and shall report the progress of his works and the state of his interface with other Interfacing Departments, Authorities or Agencies and shall provide the Employer / Employer's Representative with the necessary assistance and information.