NATIONAL BOARD OF REVENUE (NBR)

CUSTOMS MODERNIZATION AND INFRASTRUCTURE DEVELOPMENT PROJECT (CMID) UNDER THE ACCELERATING TRANSPORT AND TRADE CONNECTIVITY IN EASTERN SOUTH ASIA (ACCESS) – BANGLADESH PHASE 1 PROJECT

Terms of Reference for Consulting Services

Design and Supervision Consultancy Services for Custom House, Chattogram and Customs, Excise and VAT Training Academy, Chattogram

1. Introduction and Background

1.1. Context

The Government of the People's Republic of Bangladesh has received a Credit from the World Bank to finance the Accelerating Transport and Trade Connectivity in Eastern South Asia (ACCESS) – Bangladesh Phase 1 Project and intends to apply part of the proceeds for consulting services.

The National Board of Revenue (NBR), Ministry of Finance, Government of Bangladesh (GoB) intends to apply a portion of mentioned credit to hire a competent, qualified, and experienced consultancy firm to prepare detailed design for the development of Custom House Chattogram (CCH) and The Customs Excise and VAT Training Academy (CEVTA) in Chattogram, and to supervise the works once the Contractors are onboard. The facilities need to get a reputed international green building certification and is to be built accordingly.

- Custom House Chattogram (CCH):

  The available land is 2.74 Hectare, and the approximate development budget is 83 million USD. This needs to accommodate multi-storied building (17-story) buildings with basements for parking (or other arrangement to park vehicles) and about 103,700 square meters of built-up space to accommodate offices for customs function, laboratories, data center, store rooms, meeting rooms, medical room, women common room, child-care center, library, utility centers, and up to 19% of the built-up space for living quarters as required in a security sensitive stand-alone facility. A solar power backup for essential services is also to be included in the development.

- The Customs Excise and VAT Training Academy (CEVTA)

  The available land area is 15.65 Hectare, and the approximate development budget is 47 million USD. This needs to accommodate up to 6-story buildings with basement for parking (or other arrangement to park vehicles) and about 58,200 square meters of built-up space for administrative, training and up to 15% of the built-up space for living quarters. A rain water harvesting system and solar power backup for essential services is also to be included in the development. The campus shall have all the basic amenities required for a contemporary training academy.

1.2 About the ACCESS Program

As per the request from the GoB, the World Bank approved the ACCESS - Bangladesh Phase 1 on June 28, 2022. The project was signed on May 01, 2023, and became effective from May 03, 2023.

The ACCESS Program encompasses two phases with an estimated total program cost of US$1,450.95 million and spanning over three countries (Bangladesh, Nepal and Bhutan) with three projects. The IDA Multi-phased Programmatic Approach financing envelope is US$1,128.45 million, including US$753.45 million for Bangladesh and US$275 million for Nepal in Phase 1, and US$100 million for Bhutan in Phase 2. Estimated counterpart financing amounts to US$322.5 million in phase 1.

The program has the following activities in Bangladesh under its three components:

1.2.1 Component 1: Digital Systems for Trade

Supporting the development and improvement of IT-enabled services for trade, to reduce touch points and human interaction, enhance transparency, reduce congestion, and truck idling, resulting in faster border clearance time and greater cargo throughput, as follows:

a) Designing, supplying, developing, installing, configuring, and testing of an electronic automated border management system for Benapole, Bhomra, and Burimari land ports.
b) Designing, supplying, developing, installing, configuring, and testing of a centralized management information system that provides real-time information and monitoring of land port performance.
c) Providing an e-learning portal for risk management and supporting software for risk profiling to enhance risk management practices.
d) Developing of an e-learning platform for the Customs, Excise and VAT Training Academy, Chattogram (CEVTA); and
e) Designing and delivering of training modules for component 3 of the Project.

1.2.2 Component 2: Green and Resilient Regional Transport and Trade Infrastructure

Supporting green, resilient, and inclusive trade and transport infrastructure development along key regional corridors, as follows:

a) Developing efficient and resilient land ports at: (i) Benapole; (ii) Bhomra; and (iii) Burimari to meet increasing trade and traffic demand.
b) Constructing a state of the art green-building certified, resilient Custom House Chattogram (CCH) with enhanced capacity to process rapidly growing trade volumes with required infrastructure, collaborative laboratory and other facilities including facilities for women (including, among others, service desk, day-care center, separate WASH facilities).
c) Developing a state of the art green-building certified and resilient Customs, Excise and VAT Training Academy, Chattogram (CEVTA) to institutionalize the NBR's capacity building programs and enable continuous human resource development.
d) Carrying out a feasibility, detailed design, supervision and interior design consultancy for the CCH and CEVTA.
e) Upgrading the Sylhet-Charkhai-Sheola Section (43 kilometers) from a two-lane single carriageway to a climate-resilient four-lane dual carriageway, connecting Sheola Land Port with the Sylhet-Dhaka Highway; and

f) Installing of climate-resilient optical fiber cable ducts and an intelligent transport system for the road section, designed to improve availability and reliability of broadband connectivity.

1.2.3 Component 3: Institutional and Policy Strengthening for Transport and Trade

Supporting the Recipient's implementation of the WTO Trade Facilitation Agreement, Customs Modernization Strategic Action Plan, and preparedness for MVA implementation, as follows:

a) Supporting the implementation of the NBR's priorities for customs modernization through the provision of technical assistance for: (i) tariff modernization, in particular, tariff policy analysis, formulation and phased implementation of tariff policy; (ii) bond modernization, in particular, formulation of a Bond Manual rationalizing and consolidating the policy regulations for bonded warehouses and introducing policy regime for common bonded warehouse and scoping for duty drawback and exemption office automation; (iii) introducing green channel clearance through risk management, authorized economic operator and trusted trader programs; (iv) formation and operationalization of a national single window commissionerate; (v) effective application of pre-arrival processing; and (vi) implementation of post-clearance audit; (vii) developing training modules for CEVTA, business plans and customs, human resources, development strategies for improved services to all stakeholders, including women traders and (viii) preparation of the Customs Modernization Strategic Action Plan 2023-2026;
b) Organizing training programs for women traders on rules and regulations related to trade, and IT-enabled trade related services;
c) Providing of technical assistance to the NBR for project management and quality assurance, conducting feasibility and detail design studies for custom houses, associated environment and social standards studies, and other assessments, surveys, and data collection and capacity building programs;
d) Providing technical assistance to the BLPA for conducting feasibility and detail design studies for land ports, associated environment and social standards studies and awareness programs, studies, and capacity building in relations to land port modernization; and
e) Providing technical assistance to the RHD to advance the Recipient's preparedness and subsequent implementation of the MVA, preparatory studies for next-generation regional roads projects, environmental and social standards studies, other assessments, studies and surveys and capacity building activities.

1.3 About Customs Modernization and Infrastructure Development (CMID) Project

CMID is implemented by the NBR. The project development objective (PDO) is to increase the efficiency and resilience of trade and transport along selected corridors in Bangladesh to be measured through defined outcome-level indicators, including:

i. Develop green-building certified, resilient and gender inclusive CCH and CEVTA, Chattogram based on needs assessment to offer expected service to traders with required infrastructure, collaborative laboratory and other facilities.
ii. Reduce import and export clearance time at CCH by 25%.
iii. Increase % of assessed import declaration on the first day at CCH to 80%.
iv. Increase % of assessed export declaration on the first day at CCH to 50%.

v. Reduce average physical inspection at key border ports of Bangladesh to less than 5%.
vi. Reduce Nominal Protection Rate (NPR) by 20% at the end of 8th FYP.
vii. Strengthen capacity of at least 60% of serving customs officials (of which 15% is female officers) on modern customs practices through both face-to-face and e-learning facilities and contribute to sustainability of the reform initiatives.
viii. Strengthen capacity of at least 60% of serving customs officials (of which 15% is female officers) on modern customs practices through both face-to-face and e-learning facilities and contribute to sustainability of the reform initiatives.
ix. 80% of users satisfied with the infrastructure facilities.
x. Reduce physical presence of the stakeholders at Customs ports by at least 60% by introducing e-customs facilities.

2. The Objective of the Assignment

The main objectives of the consulting services are to obtain all engineering services spanning from Feasibility Study, development of Master plan, Detailed Design including interior design, obtain Municipal Approval, to drafting of Bidding Documents, as well as supervision of works and tasks during Defects Notification Period (DNP) for CCH and CEVTA.

3. Scope of the Assignment

3.1 Feasibility Study

3.1.1 Document Review

All the previous studies and Master plans for the development of the CCH and CEVTA available with the Employer shall be reviewed. Also reviewed shall be relevant laws on customs, port authorities, quarantine authorities as well as relevant UN conventions and bilateral agreements to which Bangladesh is a signatory.

3.1.2 Stakeholder Consultations

a. Make in-person consultations with Officials of CCH to learn their business processes which needs to be reflected in the design.

b. Conduct regular periodic in-person consultations, either in groups or individually, with the other relevant government officials, traders and service providers using CCH campus as well as the faculty members of CEVTA, so that their legitimate requirements could be accommodated in the development plans.

c. Explore the adequacy of existing cross-border data exchange mechanism and consult the traders, transporters, shipping agents, quarantine agencies, banks, and other stakeholders on the requirements for additional data exchange protocol between the customs or port authorities of India and Bangladesh for efficient customs clearance.

d. From the consultations, identify and map the existing roles, processes, and time required for clearance by every government agency, including the customs. Develop appropriate measures, rules and procedures based of the feedback of these stakeholders' consultations. Also determine the redundant roles and processes not required as per the existing legal framework and which could be discontinued for efficiency.

e. Evaluate the training calendar for the last 5 years together with number of trainee and number of institutional instructors in each training program to get the space requirement for CEVTA in the next 20 years.

1.1.2 Preliminary Baseline

Assemble a preliminary baseline for each facility's site, including but not limited to the following:

a. Conduct topographical survey for about 25 Hectare of land in total, covering the existing CCH and CEVTA campuses, their immediate surroundings, future extension area and connecting transportation corridors. The activity shall include installation of permanent benchmarks at a spacing not more than 200 m from each other and transfer of coordinates from the nearest benchmark installed by Land Record and Survey Department.

b. Produce topographical map for surveyed area with contour interval of 100 mm showing all the natural and man-made features including underground and overhead utilities.

c. Collect geological, geomorphological, and geotechnical maps published by relevant government agencies. Analyse the geological condition including seismicity and associated hazards of the proposed locations.

d. Collect data on rainfall, historical data on inundation, drainage pattern, humidity, wind velocity, and temperature. Analyse the data to determine the relevant design parameters.

e. Take an inventory of all standing trees in the area to be developed and find appropriate area for compensatory plantation.

f. In case of any stream passing through or adjacent to the area to be developed, determine the minimum, normal and the maximum flow with 50-year return period.

g. Determine the area of inundation and corresponding water level for average precipitation and for 50-year maximum precipitation. Identify and determine the extent of disaster risk relevant to design (cyclone, sea level rise, earthquake etc.) for the next 50 years.

h. Characterize the existing land use within the area of influence.

i. Identify and describe the known physical cultural resources (historical, religious, or architectural) as well as socially sensitive areas like schools, shrines, graveyards within and adjacent to the area to be developed.

1.1.3 Business Process Analysis

Infrastructure improvements for CCH are intended to support contact-free services and paperless trade processing. Similarly, CEVTA infrastructure will need to support modern learning strategies, including a robust virtual training platform, with a view to making it a accredited regional training institute. As initiatives are underway in Bangladesh to modernize training and cross border trade processes, including digitization of data flow and automation, the Consultant will conduct a Business Process Analysis (BPA) using a comprehensive methodology. This analysis will consider current and projected modernized business processes to inform infrastructure requirements.

a. Plan, gather information about, and map current processes undertaken by CEVTA related to training as well as CCH related to border management.

b. Gather all proposed business procedure improvements, including revised workflows, human interaction between Cross-Border Regulatory Agencies (CBRA) and Trader entities at CCH and modernised training strategies at CEVTA.

c. Provide analysis of cross border trade processes carried out / proposed by CCH and current / proposed training processes at CEVTA.

d. Identify infrastructure needs that are aligned with and supportive of a contact-free and paperless operating environment at Chattogram and contemporary training approaches at CEVTA.

1.1.4 Traffic Studies

a. Assess the parking space being used by the, vehicles of Customs, customs agents, freight forwarders, other service providers, other government agencies etc.

b. Conduct 7-day, 24-hour traffic count at both the CCH and CEVTA campuses by hours of day.

c. Determine the parking space required now and in 20-year time. Propose priority for vehicles to enter and/ or park within the premises considering the space limitation.

1.1.5 Master Plans

Prepare preliminary Master plans considering all the present and future use of CCH and CEVTA with preliminary engineering designs for all the requirements (different public and residential buildings with rooms for different purposes, parking area for vehicles, security arrangement, water supply, electrification, management of waste water and garbage, ground water recharge area, boundary walls, toilets, canteen and cooking facilities, staff quarters and other utility buildings), conceptualizing sustainable Master plan, including alternative/ options designs for comparison purposes.

The master plan needs to consider the following specifications:

- Certified Green Building and Resilient Trade Infrastructure (combination of Steel framed RCC structure and RCC framed structure)
- The buildings within this project will be designed as Green Building relates to Four Elements like- Efficiency of Energy, Water, Waste Reduction & Reduction of CO2 Emission. It is related to the Design- Construction- Commissioning phase of a Project.
- All buildings will be designed as Sustainable Building Design– which encourage designers to design an Energy Efficient Building (by minimizing Building per floor area, which encourage using Daylight & avoid corridor connected building plans). To save at least 35% of total Energy, reflected by Electricity Bills.
- The project will include Solar panels (if possible, using Solar PV panel for elevation/ any other innovative design incorporating excellent architectural concept)
- The Project will use Technology which saves water (using rainwater harvesting in all aspect), Building designer can also innovate the massing of the building, focusing on this aspect.
- The project will Minimize Carbon Emission (using local materials, Encouraging Use of Cycle, E-vehicles etc. by providing preferred parking space & Charging point for E-vehicles)
- The building will be designed to focus on reuse, recycle & reduce policy of waste. The Sustainable waste collection system, reusing maximum of it etc. can be introduced to portray a Different Image of NBR.
- The project Master plan concept will be "Living in an Urban Forest" (as the area surrounded by a densely populated cityscape, it is a rare opportunity to have such open space within the heart of a commercial city, we imagine this land will be treated like

functions within Urban Forest. The designer can also involve building users to the trees through may be gardening practice, within weekends, tree plantation, naming trees etc. which may also keep them involved with the excellent green & teach them to be a compassionate professional in their career. The master plan will be designed, without cutting existing older trees, rather keeping budget for redeveloping the soil condition.

The master plans need to consider the requirements and restrictions imposed by the government, municipalities and authorities (eg: Civil Aviation Authprity, Chattogram Development Authority, Fire Service, Chattogram City Corporation).

The master plan also needs to incorporate the suggestions and recommendations of the feasibility study given below:

1.1.5.1 Proposed Other Facilities in CCH:

- A public plaza should be designed to enhance the overall image of the building.
- Security check post with modern CC camera monitoring
- Guard room adjacent to the boundary wall
- High boundary wall with impenetrable security Drain adjacent to the Site boundary & Walk Way
- Sculpture Garden & Open Green Space
- Substation- Generator and powerhouse, pump house.
- Open office interior planning.

1.1.5.2 Proposed Building, Building Functions and Landscape

✓ Public Building With Excellent Iconic Massing, inviting Professional to be in a Contemporary Architecture, linked with a Public plaza, encouraging the impact of a University/ Centre for Learning, which focus on teaching professionals about the subject in an innovative way.

✓ Sustainable Building Design-which encourage designers to design an Energy Efficient Building (by minimizing Building per floor area, which encourage using Daylight & avoid corridor connected building plans). To save at least 35% of total Energy, reflected by Electricity Bills.

✓ Using Solar panels (if possible, using Solar PV panel for elevation/ any other innovative design incorporating excellent architectural concept)

✓ Technology which saves water (using rainwater harvesting in all aspect). Building designer can also innovate the massing of the building, focusing on these aspect.

✓ Minimize Carbon Emission (using local materials, Encouraging Use of Cycle, E car etc. by providing preferred parking space & Charging point for E car)

✓ The building will be designed to focus on reuse, recycle & reduce Policy of waste. The Sustainable waste collection system, reusing maximum of it etc. can be introduced to portray a Different Image of NBR, will make the trainees more intrigued about their future career, with honesty.

- ✓ Living in an Urban Forest (as the area surrounded by a densely populated cityscape, it's a rare opportunity to have such open space within the heart of a commercial city, we imagine this land will be treated like functions within Urban Forest. The designer can also involve building users to the Trees through may be gardening practice, within weekends, tree plantation, naming trees etc. also keep them involved with the excellent green & teach them to which may be a companionate professional in their career.

- ✓ Expansion Master Plan, without cutting existing older Trees, rather keeping budget for redeveloping the soil condition.

1.1.5.3 Proposed Technical Design Specification

Chattogram Custom House is planning to reconstruct and construct different structures like main building, admin building, residential quarters and others necessary infrastructures. The proposed construction and reconstruction project will be done in CCH area. The proposed development projects will have the capacities and facilities as per the below mentioned features:

- ❖ **Proposed Internal Facilities**
  - i. Earthquake proof, R.C.C. Design Plan
  - ii. Detail plan for building uses
  - iii. Tiles flooring
  - iv. Internal plumbing & sanitation plan
  - v. Internal & common electrification plan
  - vi. Roof with water proofing and green spaces
  - vii. U.G. Tank & O/H tank with Pump plan
  - viii. Modern communication facilities
  - ix. Modern cooling facilities
  - x. Modern lift/escalator/ elevator facilities
  - xi. Modern security facilities
  - xii. Meeting room
  - xiii. Canteen/Restaurant

- ❖ **Proposed Physical Infrastructure Facilities**
  - i. Surround pavement (paver blocks)
  - ii. Drainage Network
  - iii. Water supply Network
  - iv. Power Supply
  - v. Internal Entry and Exist
  - vi. Emergency Entry & Exist
  - vii. Internal and external Lighting Fire and Safety Provisions
  - viii. Landscaping
  - ix. Beautification features

❖ **Proposed Social Infrastructures**

Drainage System	A well-connected drainage network system will be developed for a modernized drainage network system for the proposed development project of CCH
Utility Line (Network/Internet line, Dish/TV Line, Land Phone Line etc.)	Utility Line (Network/Internet line, Dish/TV Line, Land line, Phone Line etc.) will be arranged in way to make the proposed development project of CCH more efficient functionally and operationally
Fire Fighting	A modern and effective firefighting system will be developed to protect the proposed development project of CCH
Plumbing	A modern and effective plumbing system will be developed to make the proposed projects user friendly, modern and sustainable
Lift/Elevator/Escalator	Lifts/elevators/escalators will be proposed for the proposed development project of CCH accommodate more people in lifting services
Lighting System for the proposed development project of CCH	A well organized, planned and modern lighting system will be proposed for the proposed development project of CCH
CCTV/Camera/Central Monitoring System for the proposed development project of CCH	A central monitoring system with CCTV/ Camera will be proposed for the proposed development project of CCH
AC/Air Conditioner/Central	Sufficient number of AC/Air Conditioner/Central Cooling System will be proposed for the for the proposed
Cooling System for the proposed development project of C CI-I	development project of CCH
Conference/Meeting Spaces for the proposed development project of CCH	Modern equipped and technology-based conference room and meeting room will be proposed for the proposed development project of CCH
Landscaping for the proposed development project of CCH	A landscape plan will be prepared to make the proposed development project of CCH more aesthetically beautiful and environment friendly

Open Spaces for the proposed development project of CCH	Proposed development project of CCH will be with enough open spaces to make it more efficient and sustainable
Community Hall and Common Spaces for the proposed development project of CCH	There will be spaces for community hall and common space in the proposed development project of CCH
Canteen/restaurant for the proposed development project of CCH	There will be spaces for users of the proposed development project
Parking	On street and off street parking facilities will be available in the proposed development project of CCH
Emergency Entry and Exit	There will be separate plan for emergency exit and entry
Security Guard, Maintenance operator, lift operator, cleaner etc.	Total required number of security guard, maintenance operator, lift operator, cleaner etc. will be calculated and estimated based on its uses
Prayer Room/Spaces for the proposed development project of CCH	A well-designed prayer spaces will be prepared for the proposed development project of CCH
Roof Top Uses (Water Pump, Network and other Tower, Seating Arrangement, Gardening etc.)	A well planned and designed roof will be proposed for the proposed development project of CCH

At least 3 different development options together with basic cost for both the facilities shall be prepared.

1.1.5 Economic Appraisal

The Consultant will be expected to undertake a comprehensive economic evaluation of the proposed alternatives to ensure the identification and selection of the most economically efficient option, and the optimal implementation schedule. This activity is expected to require the following activities:

a. Estimation of the economic internal rate of return (EIRR) and the Net Present Value (NPV) for all identified alternatives, compared to an identified "do-minimum" alternative using a standard cost/benefit methodology, a 25-year appraisal period, and a 12% discount rate.

Costs and benefits should be expressed in constant prices (to a defined base year price), but growth in the real value of time should be included.

b. Economic costs and benefits should be shadow-priced as appropriate to reflect local conditions, e.g. labour costs, value of time, vehicle costs and maintenance practices. Account should also be taken of the estimated mitigation costs identified as necessary in the Environmental and Social Impact Assessment.

c. The assessment will include costs of any land and property that must be expropriated. The Employer will assist the Consultant in securing information on prevailing compensation rates for land and the different types of buildings, if necessary.

d. The possibility of alternative design standards, limited road realignments, different improvement options, and staged construction should be investigated, taking into consideration construction and maintenance costs and relevant economic rates of return.

e. The Consultant will carry out sensitivity analyses on the parameters that are estimated with the greatest uncertainty and calculate the key switching values for critical parameters. For the sensitivity analysis, also consider a scenario when other sea-ports are closed.

1.1.6 Required outputs

a. 3 number of alternative Master Plans for CCH and CEVTA campuses at Chattogram and linked infrastructure including last mile connectivity needs such as access roads, river ports, etc. The plan should show all the necessary infrastructure, equipment, and utilities. Determination of the best option in consultation with the Employer.

b. Feasibility-level design drawings including interior decoration and furniture layout and reports with a content and format acceptable to the Employer and the World Bank.

c. Cost estimates and cost-benefit projection/analysis, including economic analyses and sensitivity analyses.

d. Preliminary project implementation plans including construction technology considerations.

3.2 Detailed Design

3.2.1 Preliminary tasks

a. Divide the area surveyed in 5m x5m grid and determine the coordinates (x, y, z) of the corners of the grid with additional levelling survey.

b. Cadastral survey where acquisition of land is necessary for carrying out the improvement works.

c. Preparation of existing site inventory and identification of the rehabilitation of the public utilities.

d. Adequate Geological /Geotechnical investigations including 20 m deep boreholes at 5 m spacing for buildings with basements, 10 m deep boreholes at 5 m spacing for all other buildings, and pitting (1m x 1m x 1m) with DCP test at 50m spacing for yards and parking area. Soil samples from all the boreholes and pits shall be tested at recognized laboratory to determine the bearing capacity and other required parameters.

e. Construction material survey to identify the source, quality, and quantity of the construction materials and location of the borrow pits and the quarries; identify disposal area for disposing of material from demolition and any surplus material. The survey should explore and record sustainable construction materials availability in the vicinity, price of such materials, performance record and other pertinent information.

f. Hydrological investigation and studies, to determine the different hydrological parameters for climate resilient design of the proposed infrastructure.

g. Conceptualize how the buildings and other structures will be developed as green, sustainable infrastructure. As a minimum, the broad sustainability areas of focus would be - energy efficiency, waste and pollution reduction, preserve water, use of renewable energy, resilient against natural disaster and have a longer life span.

h. The designed infrastructure should be accessible and usable even during cyclones and other adverse weather condition.

3.2.2 Designs and Drawings

The consultant shall review Part 3 General Building Requirements, Control and Regulation of Bangladesh National Building Code (BNBC) 2020 and reflect the requirements in the plan and design as applicable. The tasks are grouped under the following components:

Component-1: Architectural Planning, Feasibility, Master plan, 3D and models;

Component-2: Detailed Design with structural design, geo-technical investigation, sanitary/plumbing, electro-mechanical and acoustic design, rainwater harvesting and solar power backup, stacked car parking system, IT infrastructure design, landscape design, sustainable design component details, interior decoration with flooring and furnishing details. Resource conservation and pollution prevention and/or management will be a primary consideration during design to promote the sustainable use of resources, including energy, water, soil, and raw materials.

Component-3: Incorporation of findings/recommendations from ESIA study into the design.

Component-4: Detailed cost estimate. Bid document with Specifications, Bill of Quantities, Work Schedule, Particular Conditions of Contract, Evaluation and Qualification Criteria, and Detailed Design Drawings.

Component-5: Statutory approval from municipality and other agencies.

a. The design shall adhere to all the relevant standards approved by the Government of Bangladesh, and should give due consideration to the following aspects:

- Economy in construction and maintenance without compromising on required functionality;
- Monitoring by CCTV network and a security system;
- LAN based secure data transfer system as a backbone for internal communication and communication with land port authority, quarantine authorities, immigration, police and other relevant government agencies;
- Electronic communication with the customs and port authorities on the Indian side;
- Decent and comfortable working spaces for all users;
- Using Sustainable concepts in the Master Plan and detailed design of the facilities.

- Aesthetic and fitting into the landscape and a pleasant interior;
- Needs assessment and layout design for essential furniture and equipment;
- Accessible to users with disabilities.
- Consider special requirements of the female staff and visitors, including toilet facilities for women, women-only waiting rooms and service counters, as appropriate.

b. All the design works must follow applicable requirements, norms and standard code of practices on structure of the buildings, electro mechanical, lighting, sanitation, communication, firefighting, etc. as required in Bangladesh with regards to use, flooding, fire hazard, high winds and earthquakes. the designed structures should be climate resilient and sustainable.

c. Standard software could be used for analysis and design of structural elements. The results need to be verified through manual calculation or through another software. A printout of the assumptions made, design parameters and output shall be required. The design report should include all the detailing up to bar-bending schedule of RCC reinforcement bars and joint details of structural steel elements.

d. The Architectural design of the buildings and structures have to be disaster resilient and Sustainable green buildings. The Consultant should explore the reputed international green building certifications (e.g. BREEAM, LEED, EDGE, CASBEE etc.), compare sustainability and make specific, attainable proposals. The Consultant will advise the Employer on selection of the appropriate green building certification, the level it would be achieved, and lifecycle costing analysis for every incremental level of certification. Upon concurrence, the green building standards will be incorporated and demonstrated in design, cost analysis and drawings prepared by the Consultant. The consultant will also prepare an Operations and Maintenance framework of the green facilities being designed which will be passed on to the authority who will take over the facilities at the end of construction. Designers (Architect and Engineers) should closely work with the ES experts.

e. For CEVTA, design a rainwater harvesting arrangement including filtration, aeration and other treatments to get potable water and its storage for up to 500 person per day in a sustainable way.

f. Based on construction norms and standard unit rates applicable, detailed and summary cost estimate shall be prepared. For work items not reflected in government approved norms and standard unit rates, cost analysis shall be made to derive appropriate unit rates.

g. The Consultant shall furnish the important documents, design reports, drawing and other necessary information in the format acceptable to the Employer in soft copies.

h. Prepare work and material specifications in compliance with GoB standard specifications for related works or acceptable international standards. The specification document shall cover each of the BOQ items. possible source of material, details of quality assurance and quality control tests, method of measurement and payments as well as appropriate penalties for non-compliance.

i. The consultant shall be responsible for supplying all the required information on the proposed development to obtain municipal approval and approval from other relevant agencies.

3.3. Preparation of Bidding Documents

a. On the basis of the detailed design and incorporating all relevant environmental and social mitigation measures identified in the ESIA/ESMP and other E&S documents of the project (being conducted by a different firm), the Consultant shall prepare detailed Engineer's Estimates of the construction works with sufficient accuracy to prepare the bidding documents for the proposed development in Phase-1.

b. For the purpose of comparing the cost estimates, the Consultant shall prepare an estimate based on prevailing contract prices of key items. The Employer will provide necessary assistance in approaching authorities to collect such item rates of the similar works also consult will finalize this estimate as per existing market trend.

c. The Consultant shall make appropriately sized bid packages for the works in close consultation with the Employer.

d. The RFB document need not be prepared by the Consultant but Special Condition of Contract, Bidder Evaluation Criteria, and Specifications in separate volumes for each of the proposed procurement packages will be required.

e. Prepare resource-based construction schedule identifying the right sequence of constructing buildings as well as the required key-equipment and key-personnel to be supplied by the Contractor.

f. Prepare Supervision Manual delineating a consistent, comprehensive and uniform system of quality assurance and quality control for the components, including but not limited to systems of checks and reviews, description of type, frequency and procedures of on-site as well as laboratory tests and inspections, etc., that will be enforced during the construction to ensure highest standards of quality.

3.4. Construction Supervision and Contract Management

3.4.1 Preconstruction activities

a) Check the Performance Guarantee and insurance certificates submitted by the contractor for adequacy as well as ensure their timely renewal up to the duration required.

b) Scrutinize and approve the contractor's Detailed Work Program including contractor's resource planning.

c) Scrutinize and approve construction methods proposed by the contractor, modify as necessary and monitor environmental and social safeguard requirements provisioned in ESIA, ESMP and RAP.

d) Scrutinize and approve the contractor's ESMP and its monthly updates. Assist employer in enforcement and monitoring of the ESMP implementation and E&S risk management through contractor's ESMP (C-ESMP).

e) Scrutinize and approve and enforce the contractor's Quality Management Plan with standard Quality Assurance Test recording formats.

f) Issue instructions to the contractor as required in accordance with Specifications and Work Program.

g) Check the request for mobilization advance and the bank guarantee received against the advance amount requested as well as ensure its timely deduction and renewal up to the duration required.

h) Assess and enforce, as per standard Construction Management System, the adequacy of contractor's mobilization and inputs in terms of materials, equipment, construction machinery, workers and funds.

i) Develop a Site Safety plan to uphold highest safety standard at the work sites. Consultant's progress report should separately include a separate section on site safety adherence.

3.4.2 Construction-phase activities

a) Provide line level, layout of construction to ensure conformity with the contract, propose any change in the plans based on actual site condition, if required.

b) Check the submitted Shop Drawings for appropriateness and details and approve them permitting the contractors to carry out construction work effectively and unambiguously and with highest standards of quality. Modify designs if required by site conditions.

c) While the architectural and structural components of the design would remain as per approved design, the Consultant needs to discuss often with the Employer, including preparing detailed alternative layouts, on interior design, flooring, furnishing and green building components. The Consultant shall then issue appropriate instruction to the Contractor.

d) Supervise and monitor construction of all project components including continued verification for adherence to Design, Specification, ESMP, Work Schedule, Quality Management Plan, Insurance policies, and condition of Contracts. Make written communication immediately whenever a breach is detected.

e) Attend taking of samples and quality assurance tests in number and frequency as per specifications.

f) Check measurements for works completed and in-progress and verify bills for payments to the contractors.

g) Record site activities using the KoBo Collect app or a similar method on a monthly basis and upload the collected data.

h) Interpret the technical specifications, where required.

i) Maintain detailed records of measurement of the completed works, correspondence, detailed diaries, photographs, workers, equipment and other daily site records on ambient conditions and contractor's resources at the site and their use including other documents concerning relevant events and activities.

j) Check interim certificates for progress payments, verify the quantities for such certificates and recommend the Employer for payment with special emphasis on minimizing the time taken from receiving the interim certificates to disbursement against it.

k) Ensure timely offsetting of mobilization advance, deduction of retention, taxes, liquidated damages as well as repayment of retention to be included in the corresponding interim payment certificates.

l) Provide necessary technical support to the Employer on its project management, including risk management, cost control, scheduling, monitoring and reporting.

m) Support in resolving claims tabled by the contractors. Continue the support when the claims get further escalated.

n) Organize Monthly Progress Meeting with the Contractor and record the minutes. Organize additional tool-box meetings if required.

o) Attend third party inspections, as necessary, and provide certification on the quality of the works based on such inspections.

p) Provide site safety training to contractors and consultants personnel on a regular basis to ensure that the Safety Plan is adhered to.

q) Prepare an Operations and Maintenance Manual for the use of the buildings and facilities.

r) Provide training on future operations and maintenance of green and climate resilient building to relevant government agencies.

3.4.3 Defects Notification Period (DNP) activities

a) Inspect the works at appropriate intervals during the Defects Notification Period and recommend for certification.

b) Access and make recommendations to the Employer on the contractor's claim for additional payment, extension of time and any other matters related to contract administration.

c) Certify completion of part or all of the works and issue the Taking Over Certificate.

d) Check and certify As-Built Drawings for the works prepared by the contractor at the end of assignment.

e) Prepare a Facility Operations and Maintenance Plan.

4. The Expected Inputs

4.1 Duration of Services

a. Feasibility Study and development of alternate Master plans: 3 months

b. Detailed Design and drafting of Bidding Documents: 3 months

c. Supervision work: 18 months

(The Employer may opt to extend the supervision period subject to extension of project period by the Planning Commission and the World Bank)

d. Services during Defects Notification Period: 12 months

There shall be a gap of up to 6 months after submission of Detailed Design and Bid Documents for the Employer to solicit bids for works packages and award the works contracts. The Supervision phase shall start once the Works Contractors are engaged.

4.2 Team Composition

The services shall be rendered by an appropriately qualified firm with adequate experience in conducting feasibility study, preparing master plans, designing of high-rise and green building infrastructure, as well as supervising the works to completion.

The indicative staff inputs in months are tabulated below:

	Feasibility Study, development of alternate Master plans, Detailed Design and drafting of Bidding Documents	Construction Supervision, support including DNP	Total
Key-Professionals			
Green Technology Architect/ Team Leader	6.0	30.0	36 .0
Contract Management Expert/ Deputy Team Leader	4	32	36
Customs and Border Management Specialist (International)	7	5	12
Senior Structural Expert	7.0	9	16
IT and Telecommunication Expert	5.0	5	10
Geotechnical Expert	5.0	7	12
Rainwater Harvesting Expert	2	3	5
Residential Engineer (2 numbers)	8	64	72 .0
Non-key Experts and support staff			
Customs and Border Management Expert	7	5	12
Structural Expert (4 numbers)	16.0	128	144
Landscaping Expert	4.0	14.0	18
Detailing Architect (4 numbers)	16.0	64	80
Water Supply and Sanitation Expert	7.0	14	21
Electrical Expert	7.0	14	21
Environment and Social Safeguards Expert	7.0	14	21
Principal Surveyor	5.0		5.0
Fire Hazard Expert	2.0	2.0	4.0
Quantity Surveyor (2 numbers)	4.0	44.0	48.0
Material/ Quality Assurance Expert	7.0	29	36
Hydrologist	7.0		7.0
Office Manager	7.0	29	36
Env/ Socio Field Inspector (2 numbers)	2	34	36
Inspector of Works (4 numbers)		120	120
CAD-Operator	7.0	29	36
Office Assistant (4 numbers)	28	116	36

Note:

a) *The Consultant is responsible to review the required services and may propose additional professionals (e.g.: backstopping by Business Process Analyzers, Pedagogic Experts, etc.) and support staff (e.g.: Survey Helpers, Traffic Enumerators, Boring-Rig Operators, Material Laboratory Inspectors, etc.) as well as reallocation of expert inputs to meet the delivery timelines.*

b) *The CV of key-professionals, in numbers as tabulated above, needs to be submitted in the Technical Proposal. The CV of non-key experts shall also need to be submitted but will not be evaluated by the Employer. The qualifications of both the key-professionals and non-key experts need to satisfy that listed under Section 4.3 below and is subjected to verification by the Employer at any time during the contract period.*

c) *Financial proposal should include all the logistics, investigations, rentals (e.g.: transportation costs, costs of utilities, consumables for the equipment, etc; boring rig, survey equipment, material testing laboratory, etc; survey crew, boring crew, material sampling, etc) and other direct and indirect costs (eg: agency charges for information, income tax, VAT, etc.) necessary to execute the services.*

d) *The number of experts proposed for different positions in Technical and Financial proposals should match.*

4.3 Staff Qualifications

The broad qualifications of the Key Professionals and Non-key Experts are given below. The responsibilities shall be assigned by the Consultant to complete all the deliverables in a professional manner.

a. Green Technology Architect/ Team Leader

- Education: Bachelor's Degree in Architecture, with Master's Degree in Sustainable Architectural Design or equivalent preferred. Recognized international sustainability professional accreditation. Good presentation, interpersonal and writing skills including command in English. Trainings on CAD suites. Conversant with structural analysis/design software and spreadsheets.
- Experience: 15-years of general experience in feasibility study, design and construction of high-rise buildings as Team Leader. Specific experience of completing 2 high-rise Green Buildings as well as applying for third-party inspection for Green Building certification resulting in BREEAM, LEED, EDGE, CASBEE or equivalent certification.

b. Contract Management Expert/ Deputy Team Leader

- Education: Master's degree in Civil Engineering, Construction Management, or in a relevant discipline. Certified trainings in Contract Management, or FIDIC method of procurement preferred. Good presentation, interpersonal and writing skills including command in English and spreadsheets.
- Experience: 15-years of general experience in design and construction of multi-story building complexes and industrial complexes. 5-years as Team Leader after the Master's degree in high-rise building construction projects.

c. Customs and Border Management Specialist (International)

- Education: Relevant master's degree and World Customs Organization Accredited Expert certification. Extensive trainings on ASYCUDA World or National Single Window. Good presentation, interpersonal and writing skills including command in English.
- Experience: 15-years in customs management at a senior level with a minimum of 5-years relevant experience outside native country preferred.

d. Senior Structural Expert

- Education: Graduate in Civil Engineering, preferably Master's in Structural Engineering. Extensive trainings on structural analysis and RCC structural design software suites. Professional accreditation is mandatory. Good presentation, interpersonal and writing skills including command in English.
- Experience: 15-years as Structural Engineer for design and construction of over 15-story buildings with multi-level basements. Proficiency in using structural analysis and design suites. Structural design of 2 iconic high-rise Green Buildings preferred.

e. IT and Telecommunication Expert

- Education: Bachelor's Degree in Information Technology. Preferably Master's in Telecommunication Engineering, or relevant topic. Extensive trainings on database management and enterprise level networking with PostgreSQL, CCNP or similar certification. Good presentation, interpersonal and writing skills including command in English.
- Experience: 10-years in designing, establishing and operating enterprise level datacenters. Specific experience of assembling 2 data centers for banks, customs or large enterprises.

f. Geotechnical Expert

- Education: Bachelor's Degree in Civil Engineering. Master's Degree in Geotechnical Engineering preferred. Good presentation, interpersonal and writing skills including command in English and spreadsheets. Trainings on relevant geotechnical investigation and foundation design software.
- Experience: 10-years in design and construction of deep foundations, pad foundations, anchored sheet-pile, pile-wall, diaphragm-wall and associated sub-soil exploration. Specific experience of designing and constructing a double basement for high-rise building.

g. Rainwater Harvesting Expert

- Education: Bachelor's degree in Architecture or Civil Engineering, with Master's Degree in Water Supply Engineering or equivalent preferred. Training on

large-scale rainwater harvesting will be an advantage. Good presentation, interpersonal and writing skills including command in English and spreadsheets.

- Experience: 10-years of experience in design and construction of water supply system. Specific experience of completing at least 1 large-scale rainwater harvesting system for drinking water.

h. Residential Engineer (2 numbers)

- Education: Bachelor's degree in Civil Engineering. Master's degree in Construction Management or Civil Engineering will be an advantage. Good presentation, interpersonal and writing skills including command in English and local dialect. Conversant with spreadsheets and CAD suites.
- Experience: 10-years in construction management of multi-story office complexes, commercial complexes and housing colonies. 5-years as Construction Team Leader or Resident Engineer in construction management of high-rise buildings preferred.

i. Customs and Border Management Expert

- Education: Relevant master's degree. Excellent understanding of Customs Automation and Business Processes. Good presentation, interpersonal and writing skills including command in English.
- Experience: 10-years in customs or port management at a senior level in Bangladesh with a minimum of 5-years at major customs offices.

j. Structural Expert

- Education: Graduate in Civil Engineering, preferably Master's in Structural Engineering. Trainings on structural analysis and RCC structural design software suites. Professional accreditation is mandatory. Good presentation, interpersonal and writing skills including command in English.
- Experience: 10-years as Structural Engineer for design of multi-story buildings with basements. Proficiency in using structural analysis and design suites. Specific experience of completing structural design and detailing during design as well as preparation or approval of shop drawings during construction of high-rise buildings.

k. Landscaping Expert

- Education: Master's Degree in Landscape Engineering, Architecture or equivalent. Good presentation, interpersonal and writing skills including command in English. Extensive training on CAD suites.
- Experience: 10-years of experience in landscaping or bio-engineering. Specific experience in completing landscaping of at least 5 Hectare of area.

l. Detailing Architect

- Education: Bachelor's Degree in Architecture with a relevant Master's Degree preferred. Good presentation, interpersonal and writing skills including command in English. Extensive trainings on CAD suites.
- Experience: 10-years of general experience in design of multi-story commercial and office buildings. Specific experience of completing architectural detailing during design and shop drawings during construction of high-rise buildings.

m. Water Supply and Sanitation Expert

- Education: Bachelor's Degree in Civil Engineering. Master's Degree in Water Supply/ Sanitation Engineering, Civil Engineering, or equivalent. Good presentation, interpersonal and writing skills including command in English. Trainings on CAD suites and relevant design software.
- Experience: 10-years of general experience in water supply, waste water management. Specific experience of completing design and implementation of water supply and waste water disposal of high-rise office/ residential buildings.

n. Electrical Expert

- Education: Bachelor's Degree in Electrical Engineering. Relevant Master's Degree preferred. Good presentation, interpersonal and writing skills including command in English. Trainings on CAD suites and relevant design software.
- Experience: 5-years in designing, implementing and maintaining power supply and illumination system in building complexes and cities. Specific experience of completing design and implementation of 3-phase power supply, illumination as per an international standard and solar or other viable power backup system for high-rise buildings.

o. Environment and Social Safeguards Expert

- Education: Bachelor's Degree in Ecology, Environmental Science or Engineering. Relevant Master's Degree in Environmental or Social Science preferred. Good presentation, interpersonal and writing skills including command in English and local dialects.
- Experience: 5-years as Environment and Social Safeguards Specialist for infrastructure development projects. Specific Experience in preparing IEE, EIA, ESMP and RAP, their incorporation in Bid Documents as well as monitoring implementation in 2 infrastructure development projects with multi-story buildings.

p. Principal Surveyor

- Education: Bachelor's Degree in Civil Engineering or in a relevant discipline. Certified training on surveying. Good presentation, interpersonal and writing skills including command in English and local dialects.

- Experience: 5-years in trigonometric surveying, cadaster surveying and topographic surveys. Completion of topographical survey for 2 infrastructure development projects each not less than 20 Hectare in area.

q. Fire Hazard Expert

- Education: Bachelor's Degree in Engineering. Certified training on installation of fire-fighting system for building complexes, airports and industries preferred. Good presentation, interpersonal and writing skills including command in English and CAD suites.
- Experience: 5-years in design, installation and maintenance of firefighting system for building complexes, airports and industries. Specific experience in completing design and installation of firefighting system in 2 high-rise building projects.

r. Quantity Surveyor

- Education: Bachelor's degree in Civil Engineering. Good presentation, interpersonal and writing skills including command in English and local dialect. Conversant with spreadsheets and CAD suites.
- Experience: 5-years in preparing cost estimates, measurements during construction and preparation of IPC for high-rise building projects. Completin construction of 2 high-rise building projects as an ARE or Quantity Surveyor preferred.

s. Material/ Quality Assurance Expert

- Education: Bachelor's degree in Civil Engineering. Training on construction material testing. Conversant with BSTI, ISI, ASTM, BS, EN testing protocols. Good presentation, interpersonal and writing skills including command in English. Conversant with spreadsheets and CAD suites.
- Experience: 5-years in testing of construction material in an BSTI accredited material testing laboratory. Specific experience of testing of soil, aggregate, cement, concrete, reinforcement steel, structural steel, joints of structural steel, and other construction material; non-destructive tests on concrete and structural steel; ERT and SRT; source approval of material; preparation of Quality Assurance Plans, etc for 2 high-rise building complexes or other comparable infrastructure.

t. Hydrologist

- Education: Bachelor's degree in Civil Engineering. Master's Degree in Hydrology, Water Supply Engineering, Civil Engineering, or equivalent. Good presentation, interpersonal and writing skills including command in English. Trainings on relevant hydrological modelling software.
- Experience: 10-years as hydrologist for project of comparable sizes or teaching Coastal Hydrology at university level. Preferred experience of preparing hydrographs, forecasting volume of rain runoff, tide levels and extreme

weather events for development of a large infrastructure development project along coastal area of Bangladesh.

5. Reporting Requirements

Reporting shall be as follows:

Key Activities	Timing	Reporting	Delivery Conditions
Mobilization, data/report collection, desk study, understanding of business processes at CCH and CEVTA, scheduling of activities and preparation of inception report	2 weeks from Start Date	Inception Report	▪ 5-hard/ 1-soft copy of the report; ▪ A slide presentation at the Employer's office.
Summarization of monthly activities	1st week of each consecutive month	Monthly Progress Report	▪ 5-hard/ 1-soft copy of the report
Master plan options with economic appraisal	2 months from Start Date	Master Plan Options Report	▪ 5-hard/ 1-soft copy of the report; ▪ A slide presentation at the Employer's office.
Feasibility Study and Master Plan	3 months form Start Date	Feasibility Study Reports and Phased-Master Plan	▪ 5-hard/ 1-soft copy of the report; ▪ A slide presentation at the Employer's office on Draft Report. ▪ 5-hard/ 1-soft copy of Final Report within 2 weeks of the presentation and addressing comments received on the Draft Report.
Alternative interior plans on: ▪ Flooring ▪ Furnishing ▪ Interior decoration	6 months from Start Date	Alternative Interior Plans	▪ 5-hard/ 1-soft copy of the report; ▪ A slide presentation at the Employer's office.
Detail Design and Bidding Documents	7 months from Start Date	Detail Design Report, Drawings, Specifications,	▪ 5-hard/ 1-soft copy of the Bid Document volumes;

		Condition of Contracts, Evaluation Criteria, Site Safety Plan,	▪ A slide presentation at the Employer's office on draft Bid Documents; ▪ 5-hard/ 1-soft copy of the final Bid Documents within 2 weeks of the presentation and addressing comments received on the draft documents.
Project Completion Report	Within 1 month of completion of DNP of supervised Works Packages	Project Completion Report; Operation and Maintenance reports on Green Building, Rainwater Harvesting System and Solar Power Backup	▪ 5-hard/ 1-soft copy of the reports

5 Management of the Assignment

The Employer for the assignment will be NBR. The assignment focal point will be the Project Director. There will be a Project Management Consultant to guide and monitor the Consultant on behalf of the Employer.

The general obligations are as follows:

5.1 To be provided by the Consultant

During the study, the Consultant shall provide all the facilities for their staff and other logistical requirements on their own to fulfill their obligations. These will also include backstopping experts, support staff and office facilities, office equipment and supplies, required equipment and materials for field data collection, vehicles, and communications as required. The Consultant will set out the phase wise requirements in the technical proposal and provide the financial cost estimates for these in their financial proposal.

5.2 To be provided by the Employer

The Employer will provide the Consultant with all available studies and reports and data relevant to the services. The Employer will provide access to the existing facilities and information required for the study and provide assistance where the Consultant, for the purpose of executing these services, needs to coordinate with other Government agencies, and other stakeholders. The Employer will also participate in all stakeholder consultation events.

The cost of green building accreditation and municipal approvals shall be paid by the Employer separately on at-cost basis.

By the time the Detailed Design is completed, the Employer will vacate the buildings to be demolished.