

TERMS OF REFERENCE

CONSULTANCY SERVICES FOR THE DETAILED ARCHITECTURAL AND ENGINEERING DESIGN OF THE SECOND RUNWAY INFRASTRUCTURE PROJECT OF THE CLARK INTERNATIONAL AIRPORT

1.1 INTRODUCTION

- 1.2 The Bases and Conversion and Development Authority (BCDA) in cooperation with the Clark International Airport Corporation (CIAC), has identified the Construction of Second Runway Project as one of the priority infrastructure projects of the Clark International Airport.
- 1.2 The BCDA, as the Procuring Agency, wishes to engage a consulting firm with expertise in the Planning, Development and Design of Aerodrome Facilities including assistance in the Contract Documentation for the procurement stage of the implementation of the project.
- 1.3 The Clark International Airport (designated as “CRK” in IATA and “RPLC” in ICAO) is within the 2,367-hectare Clark Civil Aviation Complex situated within the 4,400-hectare Clark Freeport Zone in Pampanga. The Clark Aviation Complex is approximately 94.6 kilometers from Manila. It can be accessed through the Subic-Clark-Tarlac Expressway (SCTEX) connected to the North Luzon Expressway (NLEX).

2.0 PROJECT SITE AND DESCRIPTION

The proposed project site is located at the west side of the aerodrome approximately 2.1 kilometers center to center from the existing Primary Runway (Rwy 02/20) or within the minimum distance set by ICAO between two (2) parallel runways. The proposed new runway shall be 3,200 meters x 60 meters, with the possibility of increasing the length up to 4,000 meters.

The site is a relatively built-up area with moderate thick vegetation along its existing well-paved road networks.

3.0 OBJECTIVES OF THE CONSULTANCY SERVICES

The main objectives of consultancy services are:

- 3.1 To review and study the ADPI Master Development Plan in preparation of the Site Development Plan of the proposed Second Runway and other related infrastructure projects.
- 3.2. To assess and evaluate the current airside facilities of CRK to determine the aerodrome’s compliance with the International Civil Aviation Organization standards and to define the aerodrome capacity aimed at meeting the operational long-term demand.

- 3.3 To prepare and establish the conceptual designs and provide preliminary airport configuration, layout plans, elevations, sections and other design requirements necessary for the detailed architectural and engineering design of the Proposed Second Runway and other related infrastructure projects for the approval of the BCDA.
- 3.4 To prepare the detailed engineering design plans, scope of work and estimates of the approved conceptual designs for the Construction of the Second Runway and other related infrastructure projects and to develop a project schedule and identify implementation priorities for the operational safety of CRK during the execution of the project.
- 3.5 To assist the BCDA during the bidding for the construction contract to ensure compliance with the Government Procurement Law (RA 9184) and its Revised Implementing Rules and Regulations (IRR). The Design Consultant shall execute the following tasks:
 - a. Provides Terms of Reference, Bidding Documents, and Costing for the Second Runway Infrastructure Construction;
 - b. Provides professional advice to the Bids and Awards Committee (BAC) during Pre-Procurement Activities;
 - c. Assists the BAC in holding pre-bid conference(s) and in preparing replies to queries/concerns submitted by the bidders;
 - d. Assists the Technical Working Group in the evaluation of the eligibility, technical and financial bid/documents submitted by the applicants;
 - e. Assists the BAC (or its Technical Working Group) in the conduct of Post Qualification process; and
 - f. Assists in the determination of the winning bidder.

4.0 STUDY AND DETAILED ENGINEERING DESIGN AREA

The review and evaluation of the *ADPI Master Plan*, shall provide the Consultant the baseline and guidance in the preparation of the Site Development Plan for the proposed Second Runway and its related infrastructure projects.

The study area covers the existing CRK facilities which includes, but not limited to the airside facilities, Nav aids and aerodrome structures/buildings facilities. The Consulting Firm shall work closely with the joint project management office by the BCDA and CIAC, technical division and airport stakeholders (BCDA, DOTr, and LIPAD, among others) to gather key information, safety policies and other technical/social requirements to get a full understanding of CIAC's Vision, airport configuration, layout plans, elevations, sections and other design requirements necessary for the detailed engineering design for the approval of BCDA. Two physical 1:500 scale models of the Clark Civil Aviation Complex enclosed in glass and lights shall be prepared for BCDA.

The study shall also provide guidelines for the preparation of Memoranda of Agreement between the CRK Management and Stakeholders operating at the airport during the implementation/construction stages of the project.

The Detailed Architectural and Engineering Design shall be prepared and submitted guided by the Approved Conceptual Design and the Study Area defined above.

5.0 SCOPE OF CONSULTING SERVICES

To achieve the objectives outlined above, the Consulting Firm hereinafter referred to as the “Design Consultant”, is responsible for performing the following activities:

5.1 Concept Planning and Study Phase of the Clark International Airport Second Runway based on International Civil Aviation Standards, CAAP Manual of Standards, and other applicable standards.

5.1.1 Review of the ADPI Master Plan, Assessment of Airport Facility and Utility Requirements (including inventory of current capacity and demand projections)

5.1.2 Second Runway Siting and Environmental Impact

- Determination of Second Runway Location, Length, and Distance Separation:
 - Conduct Parallel Runway Study
 - Runway Usability Analysis
 - Wind Analysis
 - Runway Modes of Operation Determination
 - Airspace Analysis
 - Aircraft Capacity Study
 - Landing and Take-off Procedures per aircraft type
 - Conduct Runway Length Analysis
 - Identify Runway Safety Areas
 - Determine Navigational Aids Requirements
 - Conduct Soil Investigation/Analysis
 - Conduct Topographic Survey
 - Conduct Hydrological and Drainage Study of the CCAC
 - Conduct Unexploded Ordnance Survey
 - Prepare Environmental Impact Statement

5.1.3 Operational Conceptual Design

- Conduct and Preparation of Aeronautical Study with Flight Procedure Design using LIDAR Data/Electronic Terrain and Obstacle Data (DTM, DSM, DEM) harmonized with existing Basa, Subic, Sangley, Ninoy Aquino International Airport (NAIA) and also the New Manila International Airport Project in Bulacan
- Preparation of updated OLS based on existing buildings and terrain with Type A and Type B Charts, with RNAV Procedures
- Airspace Planning
- Determining the number of Runway Movements
- Determining Airspace Choke Points

5.2 Conceptual and Operational Design of the Third Runway

5.3 Detailed Architectural and Engineering Design based on the Approved Design Concept

5.3.1 Demolition Plans of affected structures (buildings and road network/connectivity) and Clearing of identified areas covered in the Runway Protection Zone (RPZ)

- Relocation of all affected services/utilities (high voltage power, sewer, potable water irrigation water/fire hydrants, communication lines)
- Clearing of obstacle/grading/excavation/earth filling of embankments
- Demolition and Relocation of all affected road networks/connectivity

5.3.2 Design of the Second Runway

- Runway location
- Overall width of runway (runway main width and shoulder)
- Runway Length
- Runway Orientation
- Pavement Design
- Runway End Safety Area (RESA)
- Runway Markings/Markers
- Aircraft Guidance System

5.2.3 Design of Taxiway (connecting Primary Runway and Second Runway, and parallel Taxiway to Second Runway)

- Taxiway Width Requirement
- Taxiway Length Requirement
- Taxiway Separation
- Taxiway Fillet
- Taxiway Lightings
- Taxiway Markings/Markers
- Aircraft Holding Areas
- Connecting taxiways and its shoulders
- Rapid Entry/Exit Taxiway

5.2.4 Design of Airport Navigational/Communication Systems

- Instrument Landing System (ILS)
- Meteorological Equipment (MET)
- Data Communication/Remote Control Monitoring System (RCMS)
- Design and Preparation of Radio Coverage Map of NAVAIDs, DVOR, and Communications

5.2.5 Design of Airfield Ground Lighting System (AGLS)

5.2.6 Design of new airside and landside emergency vehicle staging areas

5.2.7 Perimeter Road and Security Fence

- Design of security fence
- Design of crash gates at appropriate locations for emergency response
- Provision of CCTV

5.2.8 Security check points and guardhouses prior to entering the secured area

- Provision of guardhouses
- Provision of inspection equipment such as x-rays, walk-thru metal detector, handheld metal detector, etc.
- Provision of vehicle access road and pedestrian lanes

5.2.9 Design of Aerodrome Rescue and Fire Fighting (ARFF) Facility

The location of the ARFF Facility shall be in accordance with the ICAO Annex 14-Aerodrome Sec. 9.2.21 and 9.2.22 prescribing the recommended response time.

5.2.10 Design of sodding of affected area (sodded airport grounds)

5.2.11 Design of Meteorological Facilities

- Meteorological Office
- MET Garden
- Inflating Station
- Support Facility

5.2.12 Design of Airport Maintenance Building Facility

5.2.13 Provision of underground fuel piping

5.2.14 Design of Utility Tunnel/Culvert/Culvert Boxes (intended for utility lines, maintenance work and power/lighting/communication lines)

5.2.15 Design of Drainage System

5.2.16 Contract Documentation and Pre-Construction Phase.

- Review of Final Design and Reconciliation with the Approved_Budget and Construction Schedule Requirements (including contingencies for variations);
- Preparation of the Terms of Reference for the Construction Phase and Project Management Phase;
- Preparation of all Bid Documents for the Construction Phase;
- Consultancy Assistance/Evaluation during the Bidding Phase.

6.0 PROJECT STAGES

6.1 Planning & Concept Design Phase.

This stage specifies the planning requirements for the determination of the works involved in the project. Activities within this stage of the project includes but not limited to:

- a. Determination of the Proponent's requirements on the project. Planning meetings with the BCDA, CIAC, DOTr, CDC, CAAP, LIPAD, DPWH and other agencies concerned on the project.

- b. Planning the necessary aeronautical & navigational requirements, engineering surveys, geotechnical/soil investigations and engineering studies for preliminary design considerations based on CAAP requirements.
- c. Developing preliminary design plans, environmental and social considerations, project recommendations and preliminary layouts and cost estimates based on CAAP requirements.

6.2 Approval of the Design Concept by the BCDA Management

BCDA to indicate and specify the manner of approval on the design concept with respect to the specifications and timeline required for the Project.

The approval should be understood that any design concept to be provided and recommended to BCDA should have been given clearance and approval by CIAC and CAAP.

6.3 Detailed Architectural and Engineering Design Phase

This stage includes activities required to be undertaken and accomplished in full to complete project design but not limited to:

- a. Conduct meetings and design conferences to obtain information including CAAP requirements and directive from the BCDA.
- b. Collecting engineering data and undertaking field investigations, performing geotechnical engineering studies and engineering and special environmental studies;
- c. Preparing necessary engineering reports and recommendations;
- d. Preparing the time frame of the project and related cost-time parameters;
- e. Preparing detailed preliminary plans, technical specifications and cost estimates;
- f. Printing and providing necessary copies of engineering drawings, contract documents and specifications.

6.4 Approval of the Detailed Architectural and Engineering Design by the BCDA Management

The approval should be understood that any design concept to be provided and recommended to BCDA should have been given clearance and approval by CIAC and CAAP.

7.0 MINIMUM PERFORMANCE CODES AND STANDARDS

All applicable codes and standards to be followed for construction are provided below:

- a. ICAO : International Civil Aviation Organization
- b. FAA : Federal Aviation Authority

- c. CAAP : Civil Aviation Authority of the Philippines
- d. ASTM : American Society of Testing and Materials
- e. AASHTO : American Association of State Highway and Transportation Officials
- f. ACI : American Concrete Institute
- g. JIS : Japan International Standards
- h. DPWH : Department of Public Works and Highways

8.0 RESPONSIBILITIES OF THE PLANNING AND DESIGN CONSULTANT

- 8.1 Responsibilities of the Planning and Design Consultants, herein referred to as the “Design Consultant”. Generally, but without limiting the Consultant’s responsibilities elsewhere stated under this TOR which shall form part of the Contract, the Consultants shall:
 - 8.1.1 Carry out the preparation of the Conceptual Design with sound theories and practices and in accordance with the standards, specifications, timetable, guidelines and provisions of the TOR;
 - 8.1.2 Accept full responsibility for the consulting services to be performed under this TOR including applicable warranties on the integrity and soundness of the design;
 - 8.1.3 Perform the work in an efficient and diligent manner;
 - 8.1.4 Provide on-call services during the bidding process and construction phase to answer queries or make clarification regarding the design as BCDA may require at no additional cost to BCDA.
- 8.2. **Records.** The Design Consultant shall maintain an accurate, secured and orderly filing system for clarity, easy accessibility and ready reference.
- 8.3. **Information and Progress Reports.** In addition to the reports required in the TOR, the Design Consultant shall furnish BCDA monthly progress reports and any such information relative to the consulting services as BCDA may from time to time reasonably request and as the Commission on Audit (COA) may require in the Post Audit;
- 8.4. **Assignment and/or Sub-Contract.** Except with prior written approval by the BCDA, the Design Consultant shall neither assign nor sub-contract any part of the professional consulting services to any other person or firm;
- 8.5. **Prohibition on Association.** The Design Consultant agrees that during or after the conclusion or termination of the Contract, limits its role to providing the consulting services herein defined and hereby disqualifies itself and any other contractor, consulting engineer or manufacturing firm it is associated or affiliated with from providing goods, works and services during the implementation of the project;

- 8.6. **Prohibition on Professional Engagement.** No full-time staff of the Design Consultant during his assignment under the Contract shall, without the written consent of BCDA, engage directly or indirectly, either in his name or through The Design Consultant, in any activity in the Philippines, which will conflict with the performance of his duties or assignment under the Contract.
- 8.7. **Confidentiality.** Except with the prior written consent of BCDA, the Design Consultant or its Principals and Staff shall not at any time communicate to any person or entity any information disclosed thereto for the purpose of the consulting services, nor shall the Design Consultant or its Principals and Staff make public any information as to the recommendations formulated in the course of or as a result of the consulting services.

During the effectivity of the Contract, the Design Consultant shall not render its services directly to any person or entity who is or has been an adverse party in any litigation or issue against BCDA or whose business or interest are in conflict with or against the interest of BCDA. This prohibition shall subsist for a period of two (2) years after the expiration of the Contract.

In all cases, the DESIGN CONSULTANT who may be indirectly associated with any entity that may have a conflict of interest in or bias against BCDA Group shall be required to disclose the extent of such relationship, so BCDA may act upon the same accordingly.

- 8.8. **Independent Contractor.** Nothing contained herein shall be construed as establishing or creating between BCDA and the DESIGN CONSULTANT the relationship of employer - employee or principal-agent, it being understood that the position of the DESIGN CONSULTANT and anyone else performing the consulting services is that of an independent contractor.

9.0 DELIVERABLES

The Design Consultant is expected to deliver the following to BCDA:

- 9.1. **Signed/Certified, engineering studies and other planning outputs**, one original and in five (5) standard ring-binded A4 size (in facsimile); attached diagrams and drawings in five (5) A3 size white prints; the studies shall include a bibliography of references, with footnotes indicating technical references/publications with the latest update (date/publisher); pdf and editable word doc formats of the document, and all associated cad and reference files, with pdf and kmz versions of aforesaid plans
- Modified Clark International Airport Aerodrome Master Plan Report (in A3 size);
 - Airport Improvement Program (AIP) Report (in ring-binded A4 size).
- 9.2 **Specified technical studies** (technical output), as identified in 5.0 SCOPE OF CONSULTING SERVICES, such as the Terrain and Obstacle Data Analysis,

shall be duly certified by the approving professional, in the desired output, such as computer print-outs, digital drawings, schemes, diagrams, graphs, etc; submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams) and hard copies five (5) standard ring-binded A4 size (in facsimile) prints in convenient scale;

- Two alternative locations for the location of the second runway with recommendations, supported by a rationale, for the most suitable alternative (1st alternative – as per ADPI Master Plan, 2nd alternative – with the possibility of offsetting the alignment by 100 meters from West side to East side, and a reduced runway length from 4Km to 3.2Km);
- Determination of the Location and Width of the Second Runway and Distance Separation of Runways;
- Updated Aeronautical Study with Flight Procedure using LIDAR Data/ Electronic Terrain & Obstacle Data (ETOD) Analysis Report harmonized with the existing Basa Air Base and Subic Bay International Airport , as well as the Ninoy Aquino International Airport and Sangley Airport;
- Updated OLS based on existing buildings and terrain with Type A and Type B Charts, with RNAV Procedures;
- Updated Radio Coverage Map of NAVAIDs, DVOR, and Communications
- Updated Shuttle Radar Topography Mission (SRTM) Data Report;
- Parallel Runway Approach Study;
- Aircraft Capacity Study;
- Landing and Take-off Procedures per aircraft type;
- Approach/Landing Procedures Study;
- Optimum Approach Lighting System (ALS) Configuration Study;
- Safety Assessments of Runway End Safety Area (RESA);
- Airport Navigational/Communications Upgrading Program/Study;
- Ground surveyed coordinates of the Second Runway, Proposed Main Runway Extension (from 3.2 km length to 4 km), and the Third Runway
- Operational and Conceptual Design of the Third Runway;

9.3 **Conceptual/Schematic and Preliminary Design Plans and Drawings** as identified in 5.0 SCOPE OF CONSULTING SERVICES, signed, in three (3) copies in blue print/white print, or as required by the approving agencies and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);

9.4 **Detailed Design Plans and Drawings** as identified in 5.0 SCOPE OF CONSULTING SERVICES on one original A-1 size Mylar Sheet and five (5) other copies in blue print/white print, or as required by the approving agencies and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);

9.5 **Survey and Investigation Results and Reports, Design Analysis and Calculations, Technical Specifications, Indicative Bill of Quantities, Cost Estimates, Unit Price Analysis and Tender Documents** as identified in 5.0 SCOPE OF CONSULTING SERVICES in six (6) sets of A-4 size quality paper and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);;

- Preliminary Engineering Report;
 - Existing Plans;
 - Inventory of Vegetation & Trees, Existing Buildings & structures;
 - Updated Topographic Survey Report
 - Soil Exploration & Materials Survey Report;
 - Relocation Plan of affected Utilities (electric distribution, substations, transformers; water lines, fire hydrants, sewer & drainage culverts, etc);
 - Demolition and relocation of affected road network/connectivity
 - Updated Hydrological and Drainage Study Report for the CCAC;
 - Unexploded Ordnance Report;
 - Environmental Impact Study (EIS) Report/Environmental Compliance Certificate (ECC) Report.
- 9.6 **Manpower and equipment utilization program**, construction methodology, construction schedule and S-Curve, construction safety and health program as well as the manpower requirement, deployment schedule, remuneration cost and miscellaneous expenses for the construction management and supervision of the Project in six (6) sets of A-4/A-3 size quality paper ;
- 9.7 **Draft drawings for submission to BCDA for review** or in support of progress payments shall be submitted in three (3) sets of A-3 size quality paper. All other documents for submission to BCDA for review or in support of progress payments shall be submitted in three (3) sets of A-4 size quality paper and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);;
- 9.8 **Monthly Progress Reports** indicating, but not limited to the updates and accomplishments of the activities which the Design Consultant undertook for a particular month. The monthly reports shall also include the problems encountered by the Design Consultant in conducting its activities, its recommendations and solutions provided, coordination meetings attended and their outcomes, and log of correspondences;
- 9.9 Six (6) sets of the **Inception Report** and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);;
- 9.10 Six (6) sets of the **Final Design Report** and submitted in digital form/file (in editable Word format for documents, and CAD, KMZ, and PDF files for maps and diagrams);;
- 9.11 Electronic (digital) files of all deliverables (in two sets of the output file of the software used and two sets in PDF and editable Word file for documents; and CAD, KMZ, and PDF file versions for maps and diagrams);
- 9.12 **Audio Visual Presentation of the Final Design** (two sets of digital file copies to be submitted after the Approval of the Presentation); (the Client Agency shall specify date/details of presentation);

9.13 Two physical 1:500 scale models of the Clark Civil Aviation Complex enclosed in glass and lights, incorporating the final location of the Second Runway in the Ultimate Phase of Development of the Clark Civil Aviation Complex as per ADPI Master Plan

9.14 **All Bidding Documents** shall be submitted in two (2) sets of digital files (pdf files); shall be submitted as hardcopies in Original, and Six (6) facsimile sets; extra sets of reproduction of shall be as per request of the Client Agency.

10.0 PROJECT DURATION

Two Hundred Seventy (270) calendar days.

11.0 APPROVED BUDGET FOR THE SERVICES

The **Consulting Services** for the Project has an **Approved Budget for the Contract (ABC)** in Pesos: **One Hundred Ninety-Nine Million Eight Hundred Thirty-One Thousand Six Hundred Seventy-Five (Php 199,831,675.00)**, inclusive of VAT and all other applicable government taxes. Bids received in excess of the ABC shall be automatically rejected during the opening of the financial proposal.

12.0 MODE OF PAYMENT

In consideration of the consulting services required under this TOR, payment to the DESIGN CONSULTANT shall be made in the following manner:

12.1. Ten percent (10%) of the Contract Price upon submission and acceptance by BCDA of the Inception Report;

12.2 Ten percent (10%) of the Contract Price upon submission and finalization of the conceptual design to BCDA;

12.3 Thirty percent (30%) of the Contract Price upon submission of the draft detailed preliminary design plans and drawings, survey and investigation results and reports, design analysis and calculations, technical specifications, indicative bill of quantities, cost estimates, unit price analysis, indicative manpower and equipment utilization program, construction methodology, nominal construction schedule and S-Curve, construction safety and health program, cost and manning requirements for the construction management and supervision and other technical reports that may be required by BCDA.

12.4 Forty percent (40%) of the Contract Price upon submission to and acceptance by BCDA of the complete set of approved detailed preliminary design plans and drawings, survey and investigation results and reports, design analysis and calculations, technical specifications, indicative bill of quantities, cost estimates, unit price analysis, indicative manpower and equipment utilization program, construction methodology, nominal construction schedule and S-Curve,

construction safety and health program, cost and manning requirements for the construction management and supervision, tender documents and other technical reports that may be required by BCDA, including the required number of reproduced copies.

12.5 The remaining ten percent (10%) of the Contract Price shall be released under the following conditions:

12.5.1. Issuance of Certificate of Completion by BCDA;

12.5.2 Submission of the Final Report by the Design Consultant and approval of the said report by BCDA;

12.5.3 Submission of the Design Consultant of a Sworn Statement that it shall provide on-call services during the bidding and construction phase of the Project subject to the conditions under this TOR, at no additional cost to BCDA.

13.0 QUALIFICATIONS OF THE DESIGN CONSULTANT.

The Design Consultant must possess the following minimum qualifications:

Should be a reputable firm with at least ten (10) years business operation involving preparation of Concept and Detailed Architectural and Engineering Design and Construction of Aerodrome horizontal and vertical projects and other relevant projects. In case of Joint Venture (JV), the primary JV partner should have at least ten (10) years business operation involving preparation of Concept and Detailed Architectural and Engineering Design and Construction of Aerodrome horizontal and vertical projects and other relevant projects and the secondary JV partner should at least have ten (10) years of business operation in Concept and Detailed Architectural and Engineering Design in the construction of aerodrome horizontal projects;

Should have undertaken at least one (1) Detailed Architectural and Engineering Design of airports or airfields contract equivalent to 50% of the ABC for the last fifteen (15) years. In case of JV, at least one (1) of the JV partners should have undertaken at least one (1) Detailed Architectural and Engineering Design of airports or airfields contract equivalent to 50% of the ABC for the last fifteen (15) years.

14.0 SHORTLISTING OF PROSPECTIVE BIDDERS

The shortlisting, which shall consist of at most five (5) prospective bidders who will be entitled to submit bids, shall be based on the following criteria and rating:

Criteria	Rating
Relative Experience of the Design Consultant	30%
Qualifications of Key Personnel	50%
Current Work Load Relative to Capacity	20%
Total	100%

The proposed bidders must pass the required minimum score of seventy percent (70%) to be shortlisted. Failure to meet the specified requirements in the shortlisting would result to a zero (0) rating for the specific criterion.

15.0 DETERMINATION OF THE HIGHEST RATED BID (HRB)

The shortlisted bidders shall be subjected to evaluation to determine the bidder with HRB, wherein the criteria and rating are as follows:

Criteria	Rating
Relative Experience of the Design Consultant	30%
Qualifications of Key Personnel	50%
Plan Approach and Methodology	20%
Total	100%

To be declared as HRB, the bidder shall pass the required minimum technical score of seventy percent (70%). Failure of the Consultant to meet the specified requirements would result to a zero (0) rating for the specific criterion

16.0 EVALUATION PROCEDURE

In order to determine the Consultant with the Highest Rated Bid, BCDA shall conduct an evaluation of bids using the Quality Cost Based Evaluation (QCBE) Procedure, wherein the technical and financial proposals shall be given a corresponding weight equivalent to 85% and 15%, respectively.

17.0 MANNING REQUIREMENT

The Design Consultant shall provide a team comprising of qualified specialists (not necessarily limited to those listed below) with duties and responsibilities described in this TOR and with satisfactory experience in implementing projects of similar nature and size. The Design Consultant shall provide the resources to fulfil the general requirements described in these Terms of Reference.

The manning requirement shall adhere to the GAD Guidelines of the DOTr Department Order No. 2012-19.

The Design Consultant is required to have previous experience in design, and supervision of pavement (runways, roads and other civil works) and construction works and, as well as having the following minimum qualifications and experience amongst its team members:

Key Personnel	Quantity	Minimum Qualification	Responsibilities
Project Manager	1	10 years experience with valid license	The Team Leader/Project Manager shall have the following responsibilities: <ul style="list-style-type: none">• Overall supervision of the project team, and in the management and organization of the project;

			<ul style="list-style-type: none"> • Leading the team in the preparation of all project deliverables; • Ensuring all reports required by BCDA are fully and punctually delivered; and • Any other task required to complete the obligations of the Consulting Services.
Deputy Project Manager/Senior Aerodrome Engineer	1	10 years experience with valid license	<p>The Deputy Project Manager shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Oversees the progress of works, performance, accomplishment, quality of works and the project's financial status and forecasts: • In constant coordination with the Team Leader and other members of the team; • In close coordination with the team leader, supervise and monitor the execution of the Contract and provide timely assistance to the Team Leader; and • Any other task required by the Team Leader to complete the obligations of the Consulting Services
Sr. Airspace Planner	1	10 years experience with B.S. Degree holder and valid certificate	<p>The Sr. Airspace shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Serves as a technical expert and project manager on the BCDA/CIAC's master plans, airspace planning and analysis, and navigational airspace and surfaces.

			<ul style="list-style-type: none"> • Provides technical expertise and direction on capital facilities planning and programming for the near-mid, and long-term development of the BCDA/CIAC. • Conducts and prepares airspace planning and analysis considering critical navigational surfaces such as reference with the Federal Aviation Regulations (FAR): Terminal Instrument Procedures (TERPS), One-Engine Inoperative (OEI), Obstacle free areas and zones, runway protection zones, runway safety areas and other critical navigational surfaces; and • Any other task required to complete the Consulting Services
Sr. Transport Planner	1	10 years experience with B.S. Degree holder and valid certificate	<p>The Sr. Transport Planner shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Conducts data review of the Airport Master Plan; • Evaluates new data & update the Airport configuration & re-set future targets/improvements in the Airport Master Plan; and • Any other task required to complete the Consulting Services
Sr. Civil Engineer/ Pavement Engineer	1	10 years experience with valid license	<p>The Sr. Civil /Pavement Engineer shall have the following responsibilities:</p>

			<ul style="list-style-type: none"> • Develops, plan, organize and carry out pavement evaluations and investigations; • Ensures all work is completed to the required standard, within the agreed timeframes and within approved budget limits; • Ensures all engineering designs are appropriate, specific to location and suitable for purpose; and • Any other task required to complete the Consulting Services
Sr. Nav aids Specialist	1	10 years experience with valid license	<p>The Sr. Nav aids Specialist shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Formulation of plans, programs and design of air navigation system and facilities of the BCDA/CIAC. • Complete engineering services for the establishment and improvement of air navigation facilities of the BCDA/CIAC; and • Any other task required to complete the Consulting Services
Sr. Electrical Engineer	1	10 years experience with valid license	<p>The Sr. Electrical Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Design of the new Ground Lighting System and all other electrical engineering aspects of the project; and • Any other task required to complete the Consulting Services.
Sr. Electronics & Communications Engineer	1	10 years experience with valid license	<p>The Sr. Electronics & Communications Engineer shall have the following responsibilities:</p>

			<ul style="list-style-type: none"> • Shall be responsible in the design electronics and communication system; and • Any other task required to complete the Consulting Services.
Sr. Geodetic Engineer	1	10 years experience with valid license	<p>The Sr. Geodetic Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Supervise and manage all survey field work and data processing; • Preparation of field reports; • Ensuring that the survey activities are within survey standards; • Periodic monitoring of the surveying works; and • Any other task required to complete the Consulting Services.
Sr. Geotechnical Engineer	1	10 years experience with valid license	<p>The Sr. Geotechnical Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Planning, directing and conduct of investigative work to analyze the likely behavior of soil and rock when placed under pressure by proposed structures, and designs above and below ground foundations; • Performing geotechnical site investigations and analyses; • Assisting Engineers in the preparation of engineering reports, plans and specifications; • Provision of information/data to the

			<p>drafting staff for the production of required plans and drawings.</p> <ul style="list-style-type: none"> • Conduct site assessment to determine appropriate location for structures/foundations; and • Any other task required to complete the Consulting Services.
Sr. Quantity/Cost Engineer	1	10 years experience with valid license	<p>The Sr. Quantity/Cost Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Shall prepare cost comparison studies & optimization studies • Prepares post-bidding re-conciliation/adjustments of contractor bid estimates (bill of quantities); • Prepares cost templates for construction monitoring & quantity surveys; • Conduct quantity surveys for progress billing certifications; and • Any other task required to complete the Consulting Services.
Sr. Environmental Specialist	1	10 years experience with valid DENR-EMB Accreditation with EIS preparer	<p>The Sr. Environmental Specialist shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Evaluate environmental conditions & prepare an Environmental Impact Statement & secure an ECC for the project • Shall evaluate construction activities to determine the extent of environmental & social impacts • Conduct a periodic assessment of the impacts of Clark

			<p>Airport's operations on the environment and recommend solutions to mitigate pollution (emissions & noise); and</p> <ul style="list-style-type: none"> • Any other task required to complete the Consulting Services.
Sr. Sanitary/Drainage Engineer	1	10 years experience with valid license	<p>The Sr. Sanitary/Drainage Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Shall be responsible that all the designed hydrological systems and structures are in compliance with the relevant government rules and regulation. Ensure that quality standards are being maintained at optimum level; • Shall ensure that the work performed by the other members is complete, accurate and in conformity with the approved drawings, specifications and standards; • Shall develop and maintain proficiency and competency in all areas of hydrologic design and analysis; and • Any other task required to complete the Consulting Services.
Sr. Architect	1	10 years experience with valid license	<p>The Sr. Architect shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Gathering of architectural data for the design requirement;

			<ul style="list-style-type: none"> • The required architectural design of the project. • Maintain all the documentations related to architectural designs; and • Any other task required to complete the Consulting Services.
Sr. Security/Safety Specialist	1	10 years experience with B.S. Degree holder and valid certificate	<p>The Sr. Security/Safety Specialist shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Gathering of data for the formulation of security and safety procedures/policies relevant to the project in accordance with the ICAO standards. • In coordination with the Deputy Project Manager, performs other tasks concerning security and safety aspect of the project.
Sr. Structural Engineer	1	10 years experience with valid license	<p>The Sr. Structural Engineer shall have the following responsibilities:</p> <ul style="list-style-type: none"> • Gathering of structural data for the design requirement of the project. • Obtain planning regulations approval; • Analyze configurations of the basic components of the project. • Perform any other tasks required to complete the Consulting Services.

Sr. Document Specialist	1	10 years experience with B.S. Degree holder	<p>The Sr. Document Specialist shall be responsible for the following</p> <ul style="list-style-type: none"> • Oversee the efficient document control and documentation flow/system. • Shall prepare bid documents (assistance to BCDA/CIAC during the bidding period & evaluation); • Supervise the preparation of all documents required for all the transactions of the Design Consultant with the BCDA/CIAC. • Shall prepare and maintain templates/form for reporting requirements of the Design Consultant. • Perform any other tasks required to complete the Consulting Services.
Airspace Planner	1	Support Staff	
Transport Planner/Economist	1	Support Staff	
Aerodrome Engineer	2	Support Staff	
Civil/Pavement Engineer	2	Support Staff	
Nav aids Specialist	2	Support Staff	
Electrical Engineer	2	Support Staff	
Electronics & Communications Engineer	2	Support Staff	
Quantity/Cost Engineer	4	Support Staff	
Document Specialist	2	Support Staff	
Architect	2	Support Staff	
Structural Engineer	1	Support Staff	
Security/Safety Specialist	1	Support Staff	
Sanitary/Drainage Engineer	2	Support Staff	
Social & Environmental Specialist	2	Support Staff	
CAD Operator	4	Support Staff	
Surveyors	4	Support Staff	

Account/Finance Officer	1	Support Staff	
Personnel Officer	1	Support Staff	
Secretary	1	Support Staff	
Administrative Staff	2	Support Staff	
Computer Operator	2	Support Staff	
Messenger/Utilityman	2	Support Staff	

All other members of the Technical Support Staff shall be either licensed engineers/architects or otherwise experts in their fields relevant to the position they are holding and who have at least five (5) years' experience in airport development studies, planning, design, and/or construction. All Key Personnel of the Design Consultants must have their respective Valid Licenses issued by the Professional Regulation Commission (PRC).

18.0 PERFORMANCE SECURITY

18.1 To guarantee the faithful performance by the winning Design Consultant of its obligations, it shall post a performance security within a maximum period of ten (10) calendar days from the receipt of the Notice of Award from BCDA and in no case later than the signing of the Contract.

18.2 The performance security shall be denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount equal to the percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Equal to Percentage of the Total Contract Price)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.	Five percent (5%)
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	
(c) Surety bond callable upon demand issued by the Government Service Insurance System (GSIS)	Thirty percent (30%)

18.3 The Performance Security shall be forfeited in favor of BCDA should the Design Consultant fail to fulfill any of its obligations under the TOR or the Contract. Additional penalties may also be imposed upon the Design Consultant for such failure.

19.0 STANDARD OF SERVICES

The Design Consultant shall fulfill its obligations under the agreement by using its technical expertise and according to the best-accepted professional and industry standards. The Design Consultant shall exercise all reasonable skill, care, diligence, and prudence in the discharge of the duties agreed to be performed and shall always work in the best interest of BCDA. To attain these, the Design Consultant shall provide personnel with sufficient qualifications and experience to ensure the full and satisfactory accomplishment of the required consulting services/undertakings.

The Consulting services shall be conducted by the Design Consultant in accordance with the instructions or directions made or to be made by the BCDA at any time before its completion. The Design Consultant shall conduct regular consultation with BCDA in relation to the undertaking of its responsibilities.

20.0 GENERAL TERMS AND CONDITIONS

20.1 Alteration and Additional Works

Revisions or additional works that becomes necessary due to the errors or fault of the Design Consultant or those which are necessary to comply with the requirements of the AGREEMENT shall be done by the Design Consultant at no additional cost to BCDA. Nevertheless, any variation of additional work items not included in the foregoing but which are proximate, appropriate and necessary shall be subject to and covered by a separate agreement pursuant to RA 9184 and its IRR.

BCDA may, at any time, by written notice to the Design Consultant, issue additional instructions, make changes or alterations in the Scope of Consulting Services or direct the omission of works included in the Scope of Consulting Services. If such instructions/changes/alterations require extra or services on the part of the DESIGN CONSULTANT, then both parties shall mutually agree upon the corresponding compensation for the same, subject to RA 9184 and its IRR.

20.2 Delay: Extension of Time: Force Majeure

Any delay on the agreed completion date from failure of performance by either of the party shall not constitute a default hereunder nor shall give rise to any claim if such delay or failure is wholly attributable to acts of God, any act of sabotage, war, armed invasion, revolution insurrection blockade, riot, declaration of national emergency, industry-wide strike, or any other cause beyond the reasonable control of either Party, or which cannot be avoided by the Design Consultant or BCDA despite the exercise of due diligence.

Within ten (10) days from the occurrence of such event, the Party affected shall notify in writing the other Party of such event of force majeure and of the obligations or part of the works the performance of which is affected by such force majeure. Immediately after such notification, the parties shall meet to discuss and agree on the appropriate steps/measures to be taken to minimize the effect(s) of the force majeure: provided that the party affected shall be entitled to an extension of the contract time for the number of days of the delay incurred by reason of the causes above mentioned.

20.3 Ownership of Reports and Documents

The reports, drawings, documents and materials compiled or prepared in the course of the performance of the consulting services are and shall remain the absolute properties of BCDA and shall not be used by the Design Consultant for purposes unrelated to the consulting services without the prior written approval of BCDA. Any equipment supplied by the BCDA, or for which payments are made or reimbursed shall become and remain the property of BCDA.

20.4 Representation and Warranties

The Parties hereby represent and warrant that no Government Official has benefited directly or indirectly from this Consulting Services. The Parties warrant that they have not offered or given, and will not offer or give to any employee, agent or representative of either Party, any gratuity, with a view toward securing any business from one another, or influencing such persons with respect to terms, conditions or performance of any contract with each other.