I. INTRODUCTION

A. BACKGROUND

1. The Government of the Republic of the Philippines (GOP) through the Department of Public Works and Highways, (DPWH), intends to engage the services of Local Consultancy Firms through the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan.

The proposed Construction of Coron-Culion Inter-Island Bridges consist of two long span bridges between Lusong Island & Marily Island (Br.2) and between Marily Island & Culion Island (Br.3) with road component of 12 Km.

Feasibility Study relative to the project were prepared by the consultants Project Design Plus (PDP) Architecture Management Corporation under the contract name Consultancy Services for the Conduct of Feasibility Study of the Proposed Coron-Culion Bridge, Palawan.

Figure 1. Location Map of Coron-Culion Inter-Island Bridges
B. OBJECTIVE

The objectives of the consulting services are to conduct:

1. Surveys and Investigation which include, but not limited to, topographic and hydrographic survey, geohazard assessment, geological assessment, geotechnical investigation and hydrological assessment.

2. Detailed Engineering Design which include, but not limited to, pavement, drainage, wave action, and road and bridge designs.

3. Provision of tender documents for procurement of civil works contractors.

II. SCOPE OF SERVICES

A. GENERAL

1. The Consultant shall provide professional services necessary for carrying out the objectives set out in this Terms of Reference by conducting the necessary studies, surveys and investigation, preparation of detailed engineering plans and specifications, cost estimates, pre-qualification, bidding and contract documents, and other requirements stipulated herein for the implementation and construction of the project.

2. The Consultant shall coordinate and report to the Planning and Design Division (PDD) of the DPWH Region IV-B to obtain uniformity and cohesiveness in the preparation of related documents consistent with the DPWH Design Guidelines, Criteria, and Standards (DGCS) 2015 Edition and applicable provisions of existing laws, codes and Department Orders.

3. The Consultant shall establish and maintain proper coordination with the Regional/District Offices of the DPWH, Regional Development Council and concerned Local Government Units for consultation on any project-related issues and concerns.

4. The Consultant shall also coordinate with the DPWH Regional Office IV-B prior to the conduct of the Engineering Surveys (topographic & hydrographic).

5. The Consultant, during the conduct of Engineering Surveys (topographic, hydrographic), shall coordinate with the PDD, particularly on Survey and investigation requirements, stipulated in the DPWH DGCS, Volume 2-B, Engineering Surveys 2015 edition and applicable provisions of existing laws, codes or Department Orders, to minimize changes/modifications and unnecessary delays in the preparation of final plans.

6. The Consultant, during the conduct of Geotechnical and Geological Investigations, shall coordinate with the PDD, particularly on geotechnical/geological requirements stipulated in the DPWH DGCS, Volume 2-C, Geological and Geotechnical Investigations 2015 edition and applicable provisions of existing laws, codes or Department Orders, to minimize changes/modifications in the design plans, substitutions of materials/methods
and unnecessary delays in the preparation of final plans and estimate/quantification.

7. In the preparation of plans, the Consultant shall use Computer Aided Design (CAD) software. After completion of the detailed design, all editable electronic files of reports, plans and drawings and other relevant documents shall be turned-over by the Consultant to PDD.

B. THE SERVICES

1. Survey and Investigation

1.1 Engineering Surveys

a. The Consultant shall conduct surveys in accordance with the requirements of the Section3 for Highway Projects & Section 4 Survey for Bridge Projects of the DPWH DGCS, Volume 2B Engineering Surveys 2015 Edition, Department Orders, and other pertinent laws relative to the conduct of surveys and Investigation.

b. A detailed topographic survey shall be conducted to locate man-made features such as roads, buildings, etc. and natural features such as cracks and slope, etc.


1.2 Survey Operations and Submittal/Approval of Plans

a. All requirements of surveys not expressly specified herein shall conform to the provisions laid by the Manual for Land Surveys in the Philippines (Land Administrative Order No. 4, B.L.) and DGCS, 2015 Ed., Volume 2B – Engineering Survey, and/or Reference Manual for Surveys and Investigation of Public Works and Highways projects.

b. The Director of DPWH Region IV-B shall designate his authorized representative to oversee and evaluate the field/office works for compliance to the herein requirements and other works to be stipulated as maybe required. The survey data shall be attested to by the representative of the concerned DPWH Regional or District Engineering Office. Any recommendations, corrections or alterations required by the authorized representative on this subject survey works shall be followed accordingly. The right is reserved by this office for works not consistent with the herein requirements and to incorporate other details deemed necessary but not embraced in the herein scope of work.

c. The Consultant shall submit one (1) set of A-3 size print of the plotted topographic/hydrographic survey plan/profile, and cross sections for preliminary review.
d. The Consultant shall submit the below listed documents for use as reference in the review of topographic survey plan, to wit:
   - Survey data/computations;
   - Profile/cross-section data;
   - Pictures of horizontal/vertical control monuments showing the location and inscriptions;
   - NAMRIA certification of the horizontal and vertical control reference point used in each project; and
   - Horizontal curve computation

e. The review of the Topographic and Hydrographic survey plans is subject to field verification to minimize changes/modifications and unnecessary delays in the preparation of final plans.

f. The review and approval of the said survey plans by DPWH do not relieve the Consultant from responsibility for the accuracy of the survey works and permanency of the horizontal and vertical ground controls and reference stations due to improper placement.

1.3 Geohazard Assessment

The Consultant shall conduct Preliminary Geohazard Assessment (PGA) and prepare PGA Report in accordance with the DPWH DGCS Volume 2-A Geohazard Assessment 2015 Edition. All geologic hazards identified in the PGA should be validated in the field and must be evaluated by a Geologist.

1.4 Geological and Geotechnical Investigations

a. The Consultant shall conduct confirmatory Geological and Geotechnical Investigations to verify and confirm the results of the Geological and Geotechnical Investigations conducted for the preparation of the Basic/Conceptual Drawings by the consultants in accordance with the requirements of the DPWH DGCS, Volume 2-C Geological and Geotechnical Investigations 2015 Edition, Department Orders, and other pertinent laws relative to the conduct of surveys and Investigation.

b. The Consultant should be able to identify areas with geological problems and difficulties, and water bearing stratum causing subsurface discharge, which could affect the stability of the bridge project.

c. All geotechnical investigation results and reports for each proposed structure of the project shall be subject for review and evaluation by the BOD in conformity with standard technical requirements for the DPWH projects.

1.5 Hydrological and Drainage Surveys

a. All available data (physical and geological maps of the territory, climatology reports, hydrological reports and maps, Coron and Culion master plan and local drainage system plans, flood control project plans, etc.) related to the Project shall be collected and examined by the Consultant who shall integrate such data with information collected directly on site and from local
government unit (LGU) office (trend of water course, stream velocity and maximum flood levels, flood prone areas, existing drainage system characteristics and conditions, and design discharge for 50 years return period (for bridge) and 25 years for box culverts).

b. The extent and nature of the catchment basin of the different water courses shall be determined by examining available topographical and geological maps as well as by means of direct investigation.

c. Hydrological/Hydraulic Reports shall be reviewed/evaluated by the DPWH Region IV-B in conformity with DPWH Standards and Technical Requirements.

d. The Consultant shall review all available existing plans and reports for the proposed project and shall validate and confirm the data for the preparation of the Detailed Design.

1.6 Hydrographic Surveys

The Consultant shall prepare a report containing the following data and analysis:

a. Determination of sea bed depth
b. Determination of Shore Line
c. Navigational Chart/Clearance
d. Location of Mean Sea Level
e. Identification of scouring, silting & irregularities of the bed
f. Tide measurement
g. Wave action analysis

2. Detailed Engineering Design

During the detailed engineering design, the Consultant shall coordinate and report to the PDD, for uniformity and cohesiveness in the preparation of related documents, consistent with the latest edition of the Design Guidelines, Criteria and Standards for Public Works and Highways, AASHTO Guidelines and other applicable provisions of existing laws, codes and Department Orders.

2.1 Drainage Design/Hydrology

a. The Consultant shall prepare a drainage design report including culvert/drainage size determination, Inlet-Outlet design control showing detailed designs and analysis for the proposed drainage structures adopted. Each drainage shall be prepared with complete drawings, profile and cross sections.

b. With respect to hydraulic design, carry out hydrological studies on both the proposed and existing drainage facilities with careful analysis or meteorological data and other data such as rainfall, atmospheric temperature, flood records, environmental condition and monthly number or dry weather days, supplemented with preparation of rainfall intensity, duration and frequency (RIDF) curves for relevant locations/areas and detailed inspection. Catchment areas shall be determined by study of Topographic maps at a
scale of 1:50,000 m and doubtful or problems areas that can be observed should be noted for further investigation or survey in the field. When the survey is intended for the design of slope or subsurface drainage, special attention should be given to landslide, slope failure/erosion, and underground water seepage. The Consultant shall prepare maps indicating locations of all landslides and flooding hazards along the road sections as observed during the surveys. The Consultant shall perform stability analysis and if required recommend improvement measures for the existing slopes located at cut and embankment sections of the Project Roads to ensure that these slopes would be protected from erosion, slips, landslide and other failures.

c. It is emphasized that the Consultant shall include in the drainage design the provision of adequate surface drainage and outfall management to ensure the stability of all slopes and minimize the risk of erosion along the project.

2.2 Bridge Design and Analysis

a. The Consultant shall undertake a comparative study considering the following:
   - Cost
   - Aesthetics
   - Constructability
   - Environmental Impact
   - Maintenance

b. Based on the selected bridge type determined during the comparative study, the Consultant shall conduct detailed engineering design of the bridge(s) including the following:

i) Applicable Codes and Specifications, Loadings
   - DPWH LRFD Bridge Seismic Design Specifications, 1st Edition, 201
   - DPWH Bridge Aesthetics Guidelines, 2018 Edition
   - DPWH Standard Specification for Highways, Bridges and Airports (Blue Book), 2013

ii) Live loading

Vehicular Live Loading on the roadways of bridges or incidental structures, designated HL-93, and shall consist of the combination of the Design truck or Design Tandem, and Design Lane Load (Section 10.7.3 of DGCS Volume 5 Bridge Design 2015 Edition)

iii) Dead Loading

Concrete Nominal weight to be 24 kN/m³ (2,395 kg/m³)
Include Steel = 77 kN/m³ and Earth = 19 kN/m³

iv) Seismic Loading


v) Wind Loading

Section 10.13 of DGCS Volume 5 Bridge Design, 2015 Edition

vi) Temperature Effect

Section 10.16 of DGCS Volume 5 Bridge Design 2015 Edition Force Effects due to Superimposed Deformations

vii) Wearing Surface (Use 1.05 kN/m²)

viii) Other future utility loads

ix) Structural Analysis (superstructure, substructure, foundation), hydraulic and scour analysis

x) Design of Bridge Details

xi) Study of Construction and erection methods of bridge to be included in the plan

xii) Preparation of Engineering drawings shall include:

(a) Key plan (Location Plan and Vicinity Map)
(b) General review – General Notes / Summary of Quantities
(c) General Plan and Elevation
(d) Details of the bridges (superstructure, substructures, Foundation, etc.)
(e) Drawings showing miscellaneous details (such as drain pipes, expansion joints, approach slab, temporary works, construction sequence, bridge lighting, etc.)

xiii) Comparative Study/Matrix

xiv) Architectural Conceptual Plan and design of at least three (3) proposed structures, considering Bridge Aesthetics
3. Tender Documents for Procurement of Civil Works Contractors

3.1 Contract Plans


GENERAL
   a. Cover Sheet
   b. General Index
   c. Vicinity Key Map
   d. Location Plan Layout
   e. Legend, Abbreviation and Symbols

HIGHWAY PLANS
   f. General Notes
   g. Summary of Quantities
   h. Soils and Materials Investigation Maps
   i. Table of Reference of Horizontal and Vertical Control
   j. Grading quantities
   k. Drainage Schedule/Quantities
   l. Plan and Profile with the final alignment incorporated in the
      Topographic/Hydrographic Plans
   m. Detailed Cross-Sections (at 20 meter interval)
   n. Detailed Drainage Plans and Cross-sections
   o. Drainage Standard and Detail
   p. Geometric Road Design Elements and Standards
   q. Road Standard and Details
   r. Pavement Joint Details
   s. Schedule Listing of Road Signs, Guardrails, Lined Ditches, Slope Protection
      Works, Road Intersections
   t. Pavement Drainage Design Parameters
   u. Geotechnical Plan showing borehole location and/or test pits
   v. Idealized Soil Profile together with Boring Logs
   w. Pavement Markings Layout together with Road Safety Facilities
   x. Electrical Plan for Street Lighting, if any
   y. Miscellaneous Details
   z. Other necessary plans

BRIDGE PLANS
   aa. General Plan and Elevation showing the maximum tide/sea level
   bb. Geotechnical Plan showing borehole location and/or test pits
   cc. Summary of Quantities
   dd. Details of superstructures
   ee. Details of substructures
ff. Details of foundation
   gg. Construction Sequence and Methodology
   hh. Abutments or coastal protection structures

Whenever there is a need for the relocation of utilities such as telephone, telegraph and electricity poles, etc. as well as buildings, fences and major trees to be removed, such details shall be indicated in the drawings and a separate list shall be prepared.

Navigational clearance from Coast Guard shall be secured and indicated in the drawing plan.

3.2 Bill of Quantities and Quantity Calculations
The Consultant shall compute all quantities of the different types of work to an accuracy of ± 10% and prepare Bill of quantities to be submitted to BOD/DPWH Region IV-B for review. The Quantity Calculations Report shall also be prepared and submitted to DPWH.

3.3 Detailed Unit Price Analysis
The Consultant shall prepare a detailed analysis of all applicable unit prices using current cost indices, rates, etc.

3.4 Special Provisions
The Consultant shall prepare and submit for approval to the DPWH, technical specifications for specific items of work, methods of construction, measurement, and payment which are not covered by the latest edition of DPWH Standard Specifications and applicable Department Orders.

III. IMPLEMENTATION

A. CONTRACT PERIOD

The Consultant's contract period for undertaking the detailed engineering and the preparation of bidding documents of the said project shall not be more than six (6) months.

B. STAFF AND SCHEDULE

The Consultants shall be composed of qualified staff with skill and experience necessary to undertake the range of task set out in these Terms of Reference. The list of required key personnel is shown below. These key personnel shall be supported by adequate technical and other staff.

<table>
<thead>
<tr>
<th>KEY STAFF</th>
<th>NO. OF STAFF</th>
<th>STAFF WORK SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1. Project Manager</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2. Highway Engineer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Terms of Reference: Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan

| 3. Structural /Senior Bridge Engineer | 1 |
| 4. Structural/Junior Bridge Engineer | 1 |
| 5. Geotechnical Engineer | 1 |
| 6. Hydraulic/Drainage/Civil/Coastal Structure Engineer | 1 |
| 7. Geodetic Engineer | 1 |
| 8. Cost/Specs/Quantity Engineer | 1 |
| 9. Geologist | 1 |
| 10. Soils/Materials Engineer | 1 |
| **TOTAL** | **10** |

C. CRITERIA FOR SELECTION

The prospective Consultancy Firms must have at least 10 years of relevant experience related to this TOR and will be rated based on the criteria as shown in Annex A (Rating Table for the Shortlisting of the Consulting Firms). Prospective bidders are required to submit the following:

1. Copies of Certificate of Project Completion and Acceptance or equivalent Certification from their previous related projects within the past 5 years

2. Company Profile

3. Curriculum Vitae of Key Personnel highlighting their relevant work experience

The Consulting Firm shall be selected using the Quality Cost Based Evaluation procedure under Republic Act No. 9184 or the Government Procurement Reform Act and its IRR.

D. DELIVERABLES

1. The Consultant shall submit promptly all the soft copies of field survey data, plans/drawings and reports in portable document format (pdf) stored in a digital video disk (DVD) storage in order to preserve the authenticity and reduce the number of disks to be submitted.

2. The Consultant shall submit promptly the hard copies of reports and plans/drawings printed in paper and number of copies indicated on the following:

<table>
<thead>
<tr>
<th>Deliverable type</th>
<th>No. of copies and paper size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft Reports</td>
<td>2 copies in A4 white paper</td>
<td>Reports submitted for review/comments of DPWH</td>
</tr>
<tr>
<td>Final Reports</td>
<td>2 copies in A4 white paper</td>
<td>Copies of Draft Report that is found to be in order</td>
</tr>
<tr>
<td>Draft Plans/Drawing Design</td>
<td>3 copies in A3 white paper</td>
<td>Plans/Drawings to be submitted for review/comments or to be resubmitted for further review/comments</td>
</tr>
<tr>
<td>Final Plans/Drawing Design</td>
<td>1 copy in A3 Mylar paper</td>
<td>Copy of Draft Design Plans/Drawings that is</td>
</tr>
</tbody>
</table>

10
Terms of Reference: Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan

| Contract Plans/Drawings | 10 copies in A3 white paper | Reproduced copies of signed Final Design Plans/Drawings to be submitted for bidding purposes and securing of building permit |

3. The Consultant shall submit reports and plans/drawings in the following table. Each deliverable shall have corresponding percent weight, and shall be the basis in monitoring the progress and accomplishment of the Consultant in the conduct of the consulting services.

<table>
<thead>
<tr>
<th>a. Preliminary Design Drawings and Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.1 Topographic Drawings and Report</td>
</tr>
<tr>
<td>a.2 Geological and Geotechnical Report</td>
</tr>
<tr>
<td>a.3 Hydrological/Hydraulic Studies Report/Hydrographic Survey</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b. Detailed Engineering Design Drawings and Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.1 Drainage Design/Wave action Report</td>
</tr>
<tr>
<td>b.2 Bridge Design Drawings and Analysis Report</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c. Tender Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>c.1 Contract Plans</td>
</tr>
<tr>
<td>c.2 Bill of Quantities and Quantity Calculations Report</td>
</tr>
<tr>
<td>c.3 Detailed Unit Price Analysis</td>
</tr>
<tr>
<td>c.4 Special Provisions</td>
</tr>
</tbody>
</table>

| d. Inception Report | 2.50 % | To be submitted fifteen (15) days after the start of services |

| e. Monthly Progress Report | - | To be submitted monthly before the 5th day of the next month. The 25th of the month is the cut-off date for the reporting month. |

| f. Completion Report | 7.50 % | To be submitted fifteen (15) days before the end of the services |

| TOTAL | 100.00 % |

4. The consultant shall submit the final and corrected version of the above reports and plans/drawings, fifteen (15) days after receiving the comments on the draft version.
E. SOURCE OF FUND

Funds for the procurement of Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan, shall be sourced from DPWH Regional Office IV-B’s fund.

F. INSTITUTIONAL SET-UP/RESPONSIBILITIES

1. DPWH REGIONAL OFFICE IV-B

1.1 Shall be the Executing Agency (i.e., representative of the Government in the Contract Agreement with the Consulting Firm) and Implementing Agency

1.2 Shall, through its DPWH Regional Office IV-B Bids and Awards Committee (BAC), be responsible for facilitating the bidding and tendering of the consultancy services in compliance with RA 9184 and its IRR with the Implementing Agency as end-user

1.3 Shall be responsible for the disbursement of the fund for the service once the contract becomes executed

1.4 Shall reimburse or pay in behalf of the Consulting Firm for amounts paid on account of all taxes, duties, levies, and other impositions under the laws and regulations of the Philippines or any political subdivision or agency thereof (other than personnel who are citizens or permanent residents of the Philippines), in respect of any payment made to the Consulting Firm in connection with the carrying out of the services

1.5 Shall be responsible for the preparation and submission of financial reports as required by the Department of Budget and Management DBM and other reportorial requirements regarding the fund administration

1.6 Shall be the beneficiary/end-user of the consultancy services

1.7 Shall be responsible for the contract implementation and management, including ensuring the quality of outputs. Further, shall be responsible for the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in this TOR

1.8 Shall provide assistance in the coordination with DEO related to this study

1.9 Shall warrant that the Consulting Firm shall have free and unimpeded access to all lands and properties required for the effective execution of the services.

1.10 Shall provide the Consulting Firm necessary/available information/data and also, if available, copies of previous related studies

1.11 Shall evaluate all requests for payments/billings and endorse the same upon determination of the acceptability/correctness/completion of dates and attachments in support to the statement of work accomplished of same.

1.12 Shall improve sanction/legal action agreement consulting firm should there be violation on the terms and condition under the contract.
2. Consulting Firm

2.1 Shall be responsible for the Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan and the timely delivery of correct/accurate results/outputs.

2.2 Shall be responsible for the provision of necessary office space, which shall be within close proximity to the site, for their project staff, including the necessary office equipment (i.e., drilling machine, computers and testing equipment)

2.3 Shall shoulder all expenses of the team required in the service, including travel costs and field expenses.

2.4 Shall not assign nor sub-contract any part of the professional engineering services under this TOR to any person or firm, except with prior written consent of DPWH REGIONAL OFFICE IV-B. The approval by the Government to the assignment of any part of said services or to the engagement by the Consulting Firm of sub-contractors to perform any part of the same shall not relieve the Consulting Firm of any obligations under this TOR

2.5 Shall prohibit full-time foreign staff during his assignment under this TOR to engage, directly or indirectly, either in his name, or through the Consulting Firm, in any business or professional activities in the Philippines other than the performance of his duties or assignment under this TOR

2.6 Shall not at any time communicate to any person or entity any information disclosed to them for the purpose of these services, nor shall the Consulting Firm make public any information as to the recommendations formulated in the course of or as a result of the services, except with prior consent of DPWH REGIONAL OFFICE IV-B

2.7 Shall agree that nothing contained herein shall be construed as establishing or creating between the Government and the Consulting Firm, the relationship of employer and employee or principal and agent, it being understood that the position of the Consulting Firm and anyone else performing the services is that of an independent contractor

2.8 Shall hold the Government free from any and all liabilities, suits, actions, demands, or damages arising from death or injuries to persons or properties, or any loss resulting from or caused by said personnel incident to or in connection with the services under this TOR. The Consulting Firm shall agree to indemnify, protect and, defend at its own expense the Government and its agents from and against all actions, claims, and liabilities arising out of acts done by the Consulting Firm or its staff in the performance of the services, including the use of, or violation of any copyrighted materials, patented invention, article, or appliance.

2.9 Should be held liable for any inconsistency/ies in the report, analysis and recommendation which may results to damage or collapse of structures due to faulty design.
2.10 Shall strictly adhere with the 1TOR and other 2DO's, 3DGCS and other DPWH guidelines relevant hereto.

G. DESIGN REVIEW BY BUREAU OF DESIGN AND APPROVAL BY OFFICIALS

1. The final plans will be subjected for review by the PDD as per D.O. No. 95 series of 2013, and approval by the Undersecretary for Technical Services as per D.O. No. 192 series of 2016.

2. In order to facilitate the process of all the design review by PDD the following activities shall be undertaken:

2.1. Presentation to and discussion with PDD of Inception Report

2.2 Clearance with PDD regarding design criteria and specifications

2.3 Presentation to and discussion with PDD of preliminary design

2.4 Presentation to and discussion with PDD of the draft final design (Note: Presentation of documents shall include computer program/software).

3. The final plans prepared and approved shall be the responsibility of the design consultant. Pursuant to Section 5 of Annex “A” of the 2016 Revised Implementing Rules and Regulations of R.A. 9184, approval by the authorized government officials of detailed engineering surveys and designs undertaken by consultants neither diminishes the responsibility of the latter for the technical integrity of the surveys and designs nor transfer any part of that responsibility to the approving officials.

H. MODE OF PROCUREMENT AND PROPOSED BUDGET FOR THE CONTRACT

The procurement process for this undertaking shall be executed in accordance with RA 9184 and its IRR.

The proposed budget for the study is FIFTEEN MILLION ONE HUNDRED SEVENTY TWO THOUSAND EIGHT HUNDRED ELEVEN AND 40/100 ONLY (₱ 15,172,811.40) inclusive of all applicable government taxes and charges, professional fees, and other incidental and administrative costs (i.e., transportation expenses, cost of conduct of surveys, FGDs, consultations, and other necessary activities including food, venue, and equipment rental, and other expenses deemed necessary for the project).

1 TOR – Terms of Reference
2 DO – DPWH’s Department Order
3 DGCS – DPWH’s Design Guidelines, Criteria and Standards
The consulting contract shall be a fixed price contract. Any extension of contract time shall not involve any additional cost to the Government.

Submitted by:

RENAO L. ESCUADRO  
Chief, Planning and Design Division

DOMINIC G. SERRANO  
BAC-Chairperson

APPROVED:

YOLANDA L. TANGCO, CESO IV  
Officer-In-Charge  
Office of the Regional Director
ANNEX A
Criteria for Short-listing Consulting Firms

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Points/Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPLICABLE EXPERIENCE</strong></td>
<td></td>
</tr>
<tr>
<td>• Completed consulting services of size,</td>
<td>35</td>
</tr>
<tr>
<td>complexity, and technical specialty</td>
<td></td>
</tr>
<tr>
<td>comparable to job under consideration,</td>
<td></td>
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<tr>
<td>including quality of performance</td>
<td></td>
</tr>
<tr>
<td>• Other completed consulting services related</td>
<td></td>
</tr>
<tr>
<td>to the job under consideration</td>
<td></td>
</tr>
<tr>
<td>• Known cases of prior performance, including</td>
<td></td>
</tr>
<tr>
<td>quality of the work conforming to obligations</td>
<td></td>
</tr>
<tr>
<td>and cost of services</td>
<td></td>
</tr>
<tr>
<td><strong>QUALIFICATION OF PERSONNEL</strong></td>
<td>40</td>
</tr>
<tr>
<td>1. Qualification of key personnel that may be</td>
<td></td>
</tr>
<tr>
<td>assigned to the job</td>
<td></td>
</tr>
<tr>
<td><strong>JOB CAPACITY</strong></td>
<td>25</td>
</tr>
<tr>
<td>2. Absorptive capacity to do additional works</td>
<td></td>
</tr>
<tr>
<td>other than those currently being undertaken</td>
<td></td>
</tr>
<tr>
<td><strong>Total Score</strong></td>
<td>100</td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td></td>
</tr>
</tbody>
</table>
ANNEX B

Key Staff Requirements

1. Person-Month Requirement

<table>
<thead>
<tr>
<th>KEY STAFF</th>
<th>No. of Personnel</th>
<th>Maximum Points per Personnel</th>
<th>Weight per Personnel</th>
<th>Weight TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Manager</td>
<td>1</td>
<td>10.87 %</td>
<td>15.53%</td>
<td>15.53%</td>
</tr>
<tr>
<td>2. Highway Engineer</td>
<td>1</td>
<td>7.07%</td>
<td>10.10%</td>
<td>10.10%</td>
</tr>
<tr>
<td>3. Structural/Senior Bridge</td>
<td>1</td>
<td>8.83%</td>
<td>12.62%</td>
<td>12.62%</td>
</tr>
<tr>
<td>Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Structural/Junior Bridge</td>
<td>1</td>
<td>5.30%</td>
<td>7.57%</td>
<td>7.57%</td>
</tr>
<tr>
<td>Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Geotechnical Engineer</td>
<td>1</td>
<td>6.52%</td>
<td>9.32%</td>
<td>9.32%</td>
</tr>
<tr>
<td>6. Hydraulic/Drainage/Civil/Coastal Structure Engineer</td>
<td>1</td>
<td>6.52%</td>
<td>9.32%</td>
<td>9.32%</td>
</tr>
<tr>
<td>7. Geodetic Engineer</td>
<td>1</td>
<td>5.30%</td>
<td>7.57%</td>
<td>7.57%</td>
</tr>
<tr>
<td>8. Cost/Specs/Quantity Engineer</td>
<td>1</td>
<td>6.52%</td>
<td>9.32%</td>
<td>9.32%</td>
</tr>
<tr>
<td>9. Geologist</td>
<td>1</td>
<td>4.89%</td>
<td>6.99%</td>
<td>6.99%</td>
</tr>
<tr>
<td>10. Hydrographer</td>
<td>1</td>
<td>3.26%</td>
<td>4.66%</td>
<td>4.66%</td>
</tr>
<tr>
<td>11. Soils/Materials Engineer</td>
<td>1</td>
<td>4.89%</td>
<td>6.99%</td>
<td>6.99%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

2. Qualification Requirement

<table>
<thead>
<tr>
<th>KEY STAFF</th>
<th>Years of relevant Experience</th>
<th>Qualification Requirement</th>
<th>Similar Experience</th>
</tr>
</thead>
</table>
| 1. Project Manager              | 10                           | • Must be a licensed Civil Engineer  
• MS or Doctoral degree is an advantage  
• He/she must have a minimum of 10 years of experience in various relevant fields. | Similar Consulting Services  
  a. Detailed Engineering Design  
  b. Laboratory Testing and Analysis  
  c. Geotechnical Investigation  
  Similar Infrastructure  
  a. Structural Design and Build Projects  
  b. Land Development Projects |
| 2. Highway Engineer              | 10                           | • Must be a licensed Civil Engineer  
• MS or Doctoral | Similar Consulting Services  
  a. Detailed Engineering Design |
3. Structural/Senior Bridge Engineer

<table>
<thead>
<tr>
<th>Degree is an advantage.</th>
<th>Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects</td>
</tr>
<tr>
<td>10</td>
<td>Must be a licensed Civil Engineer MS or Doctoral degree is an advantage.</td>
</tr>
</tbody>
</table>

4. Structural/Junior Bridge Engineer

<table>
<thead>
<tr>
<th>Degree is an advantage.</th>
<th>Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects</td>
</tr>
<tr>
<td>10</td>
<td>Must be a licensed Civil Engineer MS or Doctoral degree is an advantage.</td>
</tr>
</tbody>
</table>

5. Geotechnical Engineer

<table>
<thead>
<tr>
<th>Degree is an advantage.</th>
<th>Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis c. Geotechnical Investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects</td>
</tr>
<tr>
<td>5</td>
<td>Must be a graduate of Bachelor Degree in and Licensed Geotechnical Engineering MS or Doctoral degree is an advantage</td>
</tr>
</tbody>
</table>

6. Hydraulic/Drainage/Civil/Coastal Structure Engineer

<table>
<thead>
<tr>
<th>Degree is an advantage.</th>
<th>Similar Consulting Services a. Detailed Engineering Design b. Laboratory Testing and Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Infrastructure a. Structural Design and Build Projects b. Land Development Projects</td>
</tr>
<tr>
<td>5</td>
<td>Must be a licensed Civil Engineer MS or Doctoral degree is an advantage</td>
</tr>
<tr>
<td>Position</td>
<td>Required Qualifications</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7. Geodetic Engineer</td>
<td>• Must be a graduate of Bachelor Degree in Geodetic Engineering&lt;br&gt;• MS or Doctoral degree is an advantage</td>
</tr>
<tr>
<td>8. Cost/Specs/Quantity Engineer</td>
<td>• Must be a licensed Civil Engineer or Bachelors Degree in Economics and Business&lt;br&gt;• MS or Doctoral degree is an advantage</td>
</tr>
<tr>
<td>9. Geologist</td>
<td>• Must be a graduate of Bachelor Degree in Geology and Licensed Geologist</td>
</tr>
<tr>
<td>10. Hydrographer</td>
<td>• Must be a graduate of Bachelor Degree in and Licensed Civil Engineering or equivalent&lt;br&gt;• Specialization in Hydrographic</td>
</tr>
</tbody>
</table>
ANNEX C
Payment Schedule

<table>
<thead>
<tr>
<th>PAYMENT</th>
<th>DESCRIPTION OF DELIVERABLES</th>
<th>% WEIGHT OF CONTRACT AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance Payment</td>
<td>Mobilization &amp; Demobilization</td>
<td>15</td>
</tr>
<tr>
<td>1st Payment</td>
<td>Submission of Complete Detailed Engineering Design</td>
<td>50</td>
</tr>
<tr>
<td>Final Payment</td>
<td>Submission of Final Detailed Engineering Design</td>
<td>100</td>
</tr>
</tbody>
</table>
ANNEX D
Guidelines in Preparation of Eligibility Requirements

The Eligibility Statement of the Consulting Firm interested to be considered for the services contemplated shall fill up the enclosed form in 6 copies and shall be submitted to the DPWH MIMAROPA Bids and Awards Committee.

The numbers below correspond to the numbers contained in the form:

1. Type complete name of firm, year established, country of registry if foreign, and type of organization whether individual, proprietorship, partnership, corporation or others.

2. Name of affiliate firms, year established, countries of origin, and type of organization.

3. Type exact and complete home office, business address, telephone number and cable address. For consulting firms of foreign registry, indicate if there is any branch office/s established in the Philippines and where established.

4. If present firm is the successor to or outgrowth of one or more predecessor firms, type name/s of former entity/ies and the year/s of their original establishment.

5. Present a brief narrative description of the firm.
6. Indicate clearly and accurately the names of the principals of the Consulting Firm and key personnel. This must be accompanied by the curriculum vitae showing experience, professional affiliations and language capability of the key personnel listed.

7. List no more than 2 principals who may be contracted by this Office. Listed principals must be empowered to speak for the firm on policy and contractual matters.

8. Indicate the number of employees by discipline. While some personnel may be qualified in several disciplines, each person should be countered only once in accordance with his/her primary functions:
   a. Under this item, indicate the volume of gross consultancy fees per year for the last five years. Gross fees received may be as Prime Consultant or in association or joint venture with consulting firms.
   b. Indicate bank references and bank address. It is a must that the latest balance sheet duly signed by an independent Certified Public Accountant or accounting firm be submitted with this form.
   c. The chart listed under this item represents the ranges of professional Service Fee. The indices should be indicated under item no. 10, last column.

9. Indicate appropriate types of services and fields of specialization the Consulting Firm is technically and financially qualified to undertake.

10. This term represents the on-going/committed consultancy projects of the Consulting Firm and those handled in the last five years. First column represents the name of the project, the date the project was started and how it was accomplished, i.e., as Prime Consulting Firm or through joint venture or in association with other Consulting Firms. If it was implemented in association with other Consulting Firms, indicate name of Consulting Firm. Second column represents the consulting services rendered, defined as clearly as possible. Third column represents the Client whom the services were rendered. Indicate the address of the Client. Last column represents the level of fee received by the Consulting Firm as referred to under item 8c – INDEX FEE.

11. List of projects the firm has been engaged in consulting services.
NEW FIRMS (not recognized or recently amalgamated but only established for less than 2 years reckoned from the date or preparation of this form) may accomplish this form and questions on the form dealing with personnel or experience may be answered by citing experience and capabilities of the principals and key staff of the firm based on performance and responsibility while in the employ of others. In item 10, representative projects of key personnel and principal offices for the last 3 years plus consulting services rendered by the New Firm may be indicated.

NOTE: Additional data, brochures, photos, etc. should not accompany this form unless specifically requested.
### Terms of Reference: Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan

<table>
<thead>
<tr>
<th>Eligibility Statement of the Consulting Firm</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1 Name of Firm</strong></td>
<td><strong>Year Established</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2 Name of Affiliates (if any)</strong></td>
<td><strong>Year Established</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3 Home Office/Business Address</strong></td>
<td></td>
</tr>
<tr>
<td>Contact Nos./Fax/Cell Nos.</td>
<td></td>
</tr>
<tr>
<td>Email/Company Web Site</td>
<td></td>
</tr>
<tr>
<td>Branch/Affiliate Address (for foreign firms)</td>
<td></td>
</tr>
<tr>
<td>Contact Nos./Fax/Cell Nos.</td>
<td></td>
</tr>
<tr>
<td>Email/Company Web Site</td>
<td></td>
</tr>
<tr>
<td><strong>4 Name of Former Firm</strong></td>
<td><strong>Year Established</strong></td>
</tr>
<tr>
<td>(if successor/outrgrowth of another firm)</td>
<td></td>
</tr>
<tr>
<td><strong>5 Background and Brief Description of Firm</strong></td>
<td></td>
</tr>
<tr>
<td>(Please use additional page if necessary)</td>
<td></td>
</tr>
<tr>
<td><strong>6 Names of Principal Offices and Key Officers</strong></td>
<td><strong>Position</strong></td>
</tr>
<tr>
<td>Please attach curriculum vitae including experience, professional affiliations and language proficiencies. Please attach additional pages if necessary</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>7 Designated Representative</strong></td>
<td><strong>Contact nos./Fax/Cell nos.</strong></td>
</tr>
<tr>
<td>(at least 2 principal officers)</td>
<td></td>
</tr>
</tbody>
</table>
Eligibility Statement of the Consulting Firm

<table>
<thead>
<tr>
<th>Discipline/Area</th>
<th>No. of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key Technical Experts and Specialist</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>Business-Finance</td>
<td></td>
</tr>
<tr>
<td>Business-Marketing</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
</tr>
<tr>
<td>Others (Specify)</td>
<td></td>
</tr>
</tbody>
</table>

Support Technical Staff

Administrative Staff

8A Gross Consultancy Fees for the last 5 years
(Note: Gross fees received may be as Prime Consultant or in association or joint venture with consulting firms)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Fees (Php)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8B Bank Reference
(Note: Please submit latest FS balance sheet signed by independent CPA or accounting firm)

<table>
<thead>
<tr>
<th>Name and Address of Bank and Branch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Contact Nos./Fax/Cell Nos.</td>
</tr>
<tr>
<td></td>
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</table>

8C Range of Professional Fees Index
(Note: This index will be used in Part 10)

<table>
<thead>
<tr>
<th>A. Less than P100,000</th>
<th>C. P250,000-P500,000</th>
<th>F. P1.0M-P2.0M</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. P100,000-P250,000</td>
<td>D. P500,000-P1.0M</td>
<td>G. P2.0M-P5.0M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H. P5.0M-P10.0M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I. P10.0M or greater</td>
</tr>
</tbody>
</table>

9 Fields of Specialization and Types of Service

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Type of Service</th>
<th>Types of Services Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>A. Advisory &amp; Review Services</td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td>B. Pre-investment or Feasibility Studies</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>C. Design</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>D. Construction Supervision</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>E. Other Services</td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Terms of Reference: Consulting Services on the Detailed Engineering Design (DED) of the Construction of Coron-Culion Inter-Island Bridges, Palawan

### Eligibility Statement of the Consulting Firm

| Projects Handled by Consultants in the last 5 years (Note: Please indicate role as primary consultant (PC) or joint venture (JV) in the project. If JV, please indicate partner firm) |
|:---:|:---:|:---:|:---:|
| Name of Project/Location/Year Started-Ended/Role | Detailed Description of Consulting Services Rendered | Name of Client/Address/Contact Details | PF Index (Refer to SC) |
| Name | Description | Contact | Index |

11 List of projects the firm has been engaged in consulting services

Typical projects for which consulting services have been furnished by the consultant. (Reference sheets may be submitted for as many projects as desired. Add page if necessary)

<table>
<thead>
<tr>
<th align="center">Name of Project/Location/Year Started-Ended/Role</th>
<th align="center">Detailed Description of Consulting Services Rendered</th>
<th align="center">Name of Client/Address/Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td align="center">Name</td>
<td align="center">Description</td>
<td align="center">Contact</td>
</tr>
</tbody>
</table>

### Required Attachments

1. Please submit curriculum vitae including experience, professional affiliations and language proficiencies of principal officers and key officers
2. Please submit latest FS balance sheet signed by independent CPA or accounting firm