



Republic of the Philippines  
Tourism Infrastructure and Enterprise Zone Authority  
PASAY

## TERMS OF REFERENCE

### GEODETIC SURVEY AND GEOTECHNICAL ANALYSIS OF THE SITE DEVELOPMENT AREA OF THE CENTER FOR WWII STUDIES, CABLE CAR AREA AND WALKING TRAIL

Mt. Samat Shrine of Valor, Pilar, Bataan

#### I. BACKGROUND

The Department of Tourism (DOT) and Tourism Infrastructure and Enterprise Zone Authority (TIEZA) have initiated the Flagship Tourism Enterprise Zone Program to support the framework of the National Tourism Development Plan (NTDP) on the development of Philippine tourism product and increase of the competitiveness of the country as a tourism destination. Under the Tourism Act of 2009 or R.A. 9593, the program also aims to actively develop strategically important Tourism Enterprise Zones (TEZs). One of the Flagship TEZs identified was the Mt. Samat TEZ, which is the first historical tourism enterprise zone in the country.

The Comprehensive Tourism Master Plan (CTMP) for the Mt. Samat FTEZ was approved on 25 October 2017. Under the approved CTMP, the Shrine Site development plan includes recommended improvements in the shrine site, including the establishment of the Center for World War II Studies.

During a series of discussion of the Mt. Samat FTEZ – Infrastructure Technical Working Committee (ITWC), the development of the proposed Center for WWII Studies and Cable Car station was recommended. The project will further establish Mt. Samat as hub for heritage in Bataan. It will help and cultivate scholars for their historical studies as well ensuring safe alternative mode of transportation for visiting tourists.

Relative to this, geodetic survey and geotechnical analysis must be performed on the project sites. These studies will be used as reference for the civil and structural works of the proposed projects. The project covers the geodetic survey and geotechnical analysis of the site development of Center for World War II Studies (5,000 square meters), and Walking Trail – Cable Car Station (3,800 square meters).

The TIEZA, through its Bids and Awards Committee (BAC), is inviting interested and qualified parties to bid for the provision of Geodetic Survey and Geotechnical Analysis services using the appropriate valuation methodologies.

#### II. OBJECTIVES AND EXPECTED OUTPUT

1. To conduct geodetic survey and geotechnical analysis in the site development areas of the Center for World War II Studies (5,000 square meters), and Walking Trail – Cable Car Station (3,800 square meters).
2. To provide technical knowledge, scope of works, specifications, detailed cost estimates with unit cost derivation, supply and installation, equipment labor, materials, tools, instruments,

and other works necessary for the completion of the project as specified in the contract documents and compliant with the governing rules and regulations, existing laws.

The scope of works of the services requested in the bidding includes the following:

- Site Area** : Center for World War II Studies | 5,000 square meters  
Walking Trail – Cable Car Station | 3,800 square meters.
- Location** : Mt. Samat Shrine Site FTEZ, Pilsar, Bataan

**A. Geodetic Survey and Topographic Mapping Scope of Works**

- Mobilization & Demobilization
- Tree Tagging
- Aerial Photogrammetric Survey
- GPS Survey
- Boundary Survey
- Topographic Survey (2 Meters interval)

**B. Geotechnical Study Scope of Works**

- Mobilization & Demobilization
- Provision for temporary facilities and its corresponding sanitation & Maintenance
- Geotechnical Investigation
  - i. Soil/ Rock Drilling
  - ii. Standard Penetration Test
  - iii. Preparation of Boring Logs
  - iv. Groundwater level measurement
  - v. Preservation and Transportation of samples
- Laboratory Test
  - i. Moisture content of Soil
  - ii. Soil Atterberg Limit Test
  - iii. Soil Particle Size Analysis
  - iv. USCS
- Geotechnical Evaluation
- Soil bearing Capacity, Pile Bearing Capacity

The above-mentioned scope of services to be performed during the period of consultancy is beyond the functions and expertise of any TIEZA employees. The hiring of an independent consultant for the said services is within the purview of the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act 9184, otherwise known as the Government Procurement Reform Act. General principles of the “Consulting Services” provided in the Annex B – Section 6.6 of the IRR indicate the following:

Xxx

The Special Studies may include the following and other studies not covered under any of the services and studies described above:

Xxx

- (a) Soils investigation; (b) Studies, tests and process determination performed to establish design criteria for water facilities; (c) Detailed mill, shop, and/or laboratory inspection of materials and equipment; (d) Land surveys, establishment of boundaries and monuments, and related office computations and

drafting; (e) Parcellary surveys; (f) Engineering surveys (for design and construction) and photogrammetry...

Xxx

Thus, for the purposes of bidding in the procurement of the geodetic survey and geotechnical analysis and services for the Mt. Samat FTEZ Center for World War II Studies and Cable Car Station/ Walking Trail Area, the winning bid shall be determined by the Quality Based Evaluation Procedure. The BAC shall take into consideration, aside from the cost, other factors determining the winning bid such as, but not limited to, contracts with other clients and quality services rendered, scope of work and implementation methodology.

A two-stage procedure shall be adopted whereby each consultant shall be required to submit his technical and financial proposals simultaneously in separate sealed envelopes.

After receipt of bids, the technical proposals shall first be opened and evaluated, in accordance with Section 33.2.2 of the IRR of RA 9184. The BAC shall rank the consultants in descending order based on the numerical ratings of their technical proposals and identify the Highest Rated Bid: Provided, however, that the Highest Rated Bid shall pass the minimum score indicated in the Bidding Documents.

The minimum requirements prescribed in this Terms of Reference shall be used as basis in evaluation of the technical proposal of the bidder. Compliance of the bidder to the said minimum requirement shall be determined using a 'pass-fail' system.

### III. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract (ABC) shall be a total of Nine Hundred Eighty Thousand (Php980, 000.00) inclusive of VAT and all other applicable government taxes in accordance with the applicable provisions of the IRR of R.A. 9184.

### IV. SCOPE OF SERVICES

The Surveyor shall undertake the Project in accordance with the accepted industry standards and procedures.

The Surveyor shall coordinate with the Land Management Services (LMS), Department of Environment and Natural Resources (DENR), TIEZA and other concerned offices involved or responsible in the implementation of the said project.

The Surveyor must visit the site prior to submitting his quotations to acquaint himself fully with the nature, type, scope of work and involvement therein. The rates quoted shall remain firm during the entire period of execution till completion of the work and any additional claim for lack of knowledge shall not be entertained.

Clearance and cutting of trees as required to facilitate the survey work also form part of the contract. Necessary permission of concerned relevant regulatory agencies shall be secured by the Consultant.

The services to be rendered by the said Surveyor shall include but not limited to the following:

- a. Conduct geodetic survey of the specified lots and its immediate vicinity
  - Tagging of trees in specified lots
  - Aerial photogrammetric survey

- GPS survey
  - Boundary survey
  - Topographic survey
- b. Prepare relocation and topographic plans
  - c. Conduct soil investigations with necessary number of boreholes at 15 meters depth for each lot.
  - d. Prepare the geotechnical evaluation report on the subsurface soil investigation
  - e. Provide TIEZA with hard copies and electronic files of the complete documents in Portable Document Format (PDF) and editable text format.
  - f. Perform other services or reasonable tasks that relate to the foregoing deliverables, which the TIEZA or its authorized representative may direct.

## V. DELIVERABLES

### 1. Topographic and Relocation Survey Plans, Benchmark descriptions, site photographs, side shots data and other computation regarding engineering surveys.

These must be submitted in one (1) original and five (5) printed copies, as well as electronic files in CAD, PDF, and editable formats.

Topographic features shall include, but not limited to, the following:

- All existing structures;
- Utilities such electric pole, gas, water, drainage, sewage disposal within the site, etc.
- Trees with their local/scientific name;
- Water body;
- Adjacent road with width, alignment and elevation; and
- Any other distinct features.

Additionally, electronic video file of the aerial survey must be submitted. Electronic files for CIVIL 3D must also be submitted. These include:

- Digital Terrain Model
- Topographic Map

### 2. Geotechnical Evaluation Report

A report on the investigation of subsurface soil undertaken at two project sites using 5 boreholes at 15 meters depth for each lot. The report must printed in A4-sized paper, and submitted in one (1) original and five (5) printed copies, as well as electronic files both in PDF and editable text formats.

The Report shall include, but is not limited to, the following:

- 2.1. Description of soil investigation project;
- 2.2. Geological background of area investigated;
- 2.3. Field investigation and methodology;
- 2.4. Vicinity Maps;
- 2.5. Laboratory Testing;
- 2.6. Final Boring Logs;

- 2.7. Final Laboratory Test Results;
- 2.8. Summary of Investigation Results;
- 2.9. Borehole Location Plan;
- 2.10. Soil Profile;
- 2.11. Findings and Recommendations; and
- 2.12. Photographs which shall depict the following:
  - Equipment used
  - Core drilling operations
  - Water level measurements
  - Performance of SPT sampling
  - Date photographs were taken
  - Location or station, etc.

## **VI. QUALIFICATIONS OF CONSULTANCY/SERVICE PROVIDER AND KEY PERSONNEL**

### **A. Consultancy Firm**

The Surveyor shall be responsible in ensuring the timely completion of the Services, and shall have personnel complementation of adequate educational and technical background, and proven experience and capability in the field of geotechnical investigation. The Surveyor must possess the following minimum qualifications:

1. Duly registered with relevant Government Agencies (SEC, DTL, PCAB, etc.), and with Mayor's/Business Permit issued by the city or municipality where the principal place of business is located;
2. Must have a proven track record (i.e., undertaken similar engagements in the past with government agencies and/or private entities and should not have been included in the blacklist of GPPB and other regulatory bodies); and
3. At least five (5) years of experience in soil investigation.

### **B. Manpower Requirements**

The Project requires the services of the following minimum key personnel, with the corresponding functions and qualifications, such as but not limited to:


1. Geodetic Engineer – A registered Geodetic Engineer with at least (10) years of experience in surveying.  
The Geodetic Engineer shall prepare the topographic survey plans, providing accurate topographic surveys. He/she shall analyze survey reports, maps, drawings, blueprints and other topographical data.
2. Geotechnical Engineer – A registered Civil Engineer with a Master's degree in Geotechnical Engineering and with at least ten (10) years of experience of relevance experience.

The Geotechnical Engineer shall prepare the geotechnical evaluation report, and shall input parameters for the analysis of foundation design. He/She shall also prepare soil

- 25% | Experience and capability of the Surveyor: (a) Satisfactory Rating from Client, (b) Quality of Performance in similar Projects
- 20% | Quality of personnel to be assigned to the project: Suitability of key staff to perform the duties of the project, their qualifications and competence
- 30% | Workload relative to the submitted project cost and the capacity of the Surveyor Company

Prepared by:

  
**CARISSA C. BAUTISTA**  
 Sr. Enterprise Services Specialist

  
**ARCH. JONATHAN V. VALERO**  
 Project Development & Design Staff

  
**ENGR. ALDWIN JOSEPH A. ABAINZA**  
 Project Monitoring & Management Staff

Reviewed by:

  
**FRANCIS THEODORE B. INITORIO**  
 Administrator, Mt. Samat FTEZ

Recommending Approval:

  
**ATTY. KAREN MAE G. SARINAS-BAYDO**  
 ACOO, TEZ Management Sector

Recommending Approval:

  
**ENGR. GREGORY A. OLLER**  
 ACOO, Architectural and Engineering Services Sector

Approved by:

  
**MARK T. LAPID**  
 Chief Operating Officer

Date: \_\_\_\_\_