



Republic of the Philippines
Department of Public Works and Highways
TARLAC 1ST DISTRICT ENGINEERING OFFICE

TERMS OF REFERENCE (TOR)

**Consulting Services for the Conduct of Sub-surface Soil
Exploration and Geotechnical Investigation
for Bridge Project in Tarlac City, Tarlac**

(CONTRACT ID NO. 25CSCJ01)

TERMS OF REFERENCE

Consulting Services for the Conduct of Sub-surface Soil Exploration and Geotechnical Investigation for Bridge Project in Tarlac City, Tarlac

I. INTRODUCTION

A. BACKGROUND

The Department of Public Works and Highways is implementing various Infrastructure projects. In line with this, a geotechnical investigation is required to provide important data necessary in the design of various Infrastructure projects in basis with the department's quality policy to provide quality and safe infrastructure for the improvement of the lives of every Filipino.

The DPWH Geotechnical Investigation which includes field and laboratory testing is use to determine the surface and subsurface condition. This process is essential to gather samples necessary for the detailing of the structure. This is to allow Department to further enhance the design of its future Infrastructure projects.

B. OBJECTIVES

1. To explore the sub-surface conditions of the area to provide general data relating to the project.
2. To analyze the data obtained and give engineering consideration and recommendation on the selection and design of the bridge project.
3. To be able to provide a detailed sub-soil technical report.

C. PROJECT SCOPE

The proposed project is the subject of subsurface soil exploration work including Geotechnical Report.

ITEM NO.	NAME OF PROJECT	NO. OF BOREHOLES	DEPTH
A	BRIDGE		
1	Construction of By-Pass and Diversion Roads Tarlac City Northwestern Alternate Route (San Isidro - Aguso) including Bridge Component	17	30 meters

II. SCOPE OF SERVICES

A. GENERAL

1. The Consultant shall be responsible for carrying out the necessary subsurface Soil exploration works in respect to the project stated.

2. After the receipt of Notice to Proceed (NTP), the consultant shall coordinate with the planning and Design Section, Tarlac 1st District Engineering Office, particularly on the site of the project.
3. Upon completion of the subsurface exploration work activities, the Consultant shall submit their geotechnical report to Tarlac 1st District Engineering Office.
4. The Consultant shall be responsible for the reliability of the report presented.

B. THE SERVICES

1. Subsurface Soil Exploration Works

A. LOCATION

Before the conduct of Subsurface Soil Exploration Works, The Consultant shall coordinate with the Tarlac 1st District Engineering Office, for proper coordination on the location of the project.

B. SCOPE OF PROJECT

The consultant shall provide all the labor, instrument/equipment materials and supplies, vehicles, bunkhouses, etc., necessary to perform satisfactorily the subsurface exploration herein required, viz:

- a. Field Works (Auger Boring Soil Test/Coring Test/ Sampling)
- b. Laboratory Works (Approximately 2 Layers @ 1.5meter depths)
 - Natural Moisture Content
 - Sieve Analysis
 - Liquid & Plastic Limit
 - Soil Classification
- c. Dynamic Cone Penetration Test
- d. Preparation and submission of Reports

The Consultant shall be held solely responsible for the result of this boring/drilling exploration and other activities under terms of Reference.

C. DETAILED EXPLORATION REQUIREMENTS / SPECIFICATIONS

Drilling and Sampling

1. Location and Number

The minimum number of boreholes and project location is presented on the table above.

2. Depth of Borings

Minimum depth of 30 m in ordinary soil or to 3m into sound rock if rock is encountered above the depth.

C. REPORT OUTPUTS/DELIVERABLES

1. Final Report

The Consultant shall prepare the FINAL REPORT containing geotechnical reports & analysis in three (3) bound copies in the form and substance to be submitted to Tarlac 1st District Engineering Office together with the detailed engineering plans. The final report shall not be limited to the following.

- a. Field Investigation and Methodology
- b. Borehole Drilling and Sampling
- c. Laboratory Testing
- d. Final Boring Logs (BL)
- e. Final Laboratory Test Results (FLTR)
- f. Borehole Location Plan
- g. Soil Profile along structures shoeing boring/ drilling logs
- h. Soil Bearing Capacity

Other Data to be submitted by the Consultant along with the Final Report are the following:

Boring Logs

1. Job, boring, hole number, date, time, boring/drilling, foreman, supervisor
2. Weather condition
3. Depth of Boring at start of the day
4. Detailed notes on boring / drilling procedure, casing sizes and resistance to driving, description of wash water or spoil from boring / drilling tools
5. Depth of boring at end of the day

Photographs

Photographs showing the borehole drilling and sampling at each proposed sites shall be taken by the consultant and Incorporated in the report, photographs shall be taken at each borehole location depicting the following:

1. Equipment used
2. Drilling operation
3. Date photographs was taken

III. IMPLEMENTATION

A. KEY EXPERTS' QUALIFICATION AND REQUIREMENTS

The following experts/professionals and their member shall be required to carry out the Consulting Services for the project and should have appropriate educational degree, relevant training and adequate years of experience in the conduct of sub-surface soil exploration.

Position/Key Staff	No. of Staff	Detailed Tasks/ Responsibilities	Required Qualifications
Project Manager	1	<ul style="list-style-type: none"> • Overall guidance, direction, supervision and coordination of members of the Team • Collection and evaluation of geological information on the project sites • Study and determination of items and method of soil investigation and laboratory test • Perform necessary subsoil investigations on representative sections of the road with samples to be taken at suitable intervals • Investigate the physical properties of materials to facilitate the design of structures 	<ul style="list-style-type: none"> • BS in Civil Engineering; MS or Doctoral degree is an added advantage; • Duly licensed/register ed civil engineer; • At least 10-year experience on soil, sub-surface and geotechnical survey and study of related structures;
Geotechnical Engineer	1	<ul style="list-style-type: none"> • Assist the Proj. Manager in the conduct of Soil Investigation • Collect and evaluate the geological information of the project sites • Study and determination of items and method of soil investigation and laboratory test • Investigate the physical properties of materials to facilitate the design of structures 	<ul style="list-style-type: none"> • BS in Civil Engineering; MS or Doctoral degree is an added advantage; • Duly licensed/register ed civil engineer; • At least 5-year experience on soil, sub-surface and geotechnical survey and study of related structures;

Field Engineer	1	<ul style="list-style-type: none"> Assists the Project Manager/Geotechnical Engineer in the collection of necessary data and information, in carrying out detailed soil investigations. Provides technical advice about plan, organize and supervise of members of the team. 	<ul style="list-style-type: none"> BS in Civil Engineering; MS or Doctoral degree is an added advantage; Duly licensed/register ed civil engineer; At least 5-year experience on soil, sub-surface and geotechnical survey and study of related structures;
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The Consultant shall provide technical and administrative support staff as required.

B. CONTRACT PERIOD

The consultant's contract period for undertaking the soil investigation/exploration shall be **sixty eight (68) calendar days** and the Consultant shall commence work after receipt of Notice to proceed.

C. ASSISTANCE TO BE PROVIDED BY THE CLIENT

The DPWH- Tarlac 1st DEO shall ensure that the Consultant has access to all relevant information necessary to the performance of the above services. The Consultant is expected to provide office space and equipment and all other resources for completing the service.

Prepared by:


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Approved by:


VICTOR S. ONG, JR.
 BAC Chairperson