



## SUPPLEMENTAL BID BULLETIN NO. 1

14 October 2021

Attention: All prospective bidders for the project

**Bid Ref. No. C-2021-07: CONSULTING SERVICES FOR THE DETAILED INVESTIGATION AND ISSUANCE OF CERTIFICATE OF STRUCTURAL STABILITY FOR THE THIRTY -FOUR (34) BUILDINGS OWNED BY THE DEVELOPMENT BANK OF THE PHILIPPINES**  
TOTAL ABC: PhP21,301,000.00

Please be informed of the following:

1. The schedule for the Deadline of Submission and Receipt and Opening of Technical shall proceed as follows:

Activity	To	Venue
Deadline for the Submission and Receipt of Technical and Financial Component	<b>21 October 2021 (Thursday) "on or before" 09:00 AM*</b>	6/F BAC Secretariat DBP Head Office, Makati City
Opening of Technical Component/Proposal	<b>21 October 2021 (Thursday) 10:30 AM</b>	12 <sup>th</sup> Floor, Executive Staff Room, DBP Head Office, Makati City and/or via MS Teams
Opening of the Financial Component/Proposal	<b>To be announced via Notice of Single Rated Bid (SRB)</b>	

*\*Late submission shall not be accepted.*

2. Please refer to the Section III. Bid Data Sheet (BDS) for the detailed procedure and options for the payment of bidding documents, submission and opening of bids. As indicated in the Invitation to Bid, bidders must secure the required payment for the bidding documents on or before the deadline of the submission and receipt of bids. Bidders are advised to attend the bid opening through Microsoft Teams (MS Teams).

3. Clarifications and amendments/revisions:

3.1 Request for Clarification: **ON THE TERMS OF REFERENCE**

Issue/Concern	Clarification										
<p>Page 10 of 16; <u>Section 2.2.4.6</u></p> <p>Output: Field Investigation Report and Structural As-Built Plans and Drawings</p> <p>The Consultant shall prepare Field Investigation Report which is the consolidation of the Building Condition Report, Reinforcing Bar survey Report, Materials Strength Report, Foundation Investigation Report and Geotechnical Report.</p> <p><i>Q: As we check the requirements of the different Field investigations we noticed that there is no mention of the Geotechnical Investigation to be conducted at each site but was mentioned in the list of outputs. We think that the Geotechnical Investigation is essential in determining the Structural Stability of the structure because we need to know the actual type of soil underneath the concerned structure and its soil bearing capacity. The type of soil is vital for us to determine the earthquake parameters that we will use in our model. Section 303 Foundation Investigation of The National Structural Code of the Philippines (NSCP 2015) indicate the minimum required no. of borehole per structure in terms of Footprint Area of the structure as stated in the table below:</i></p> <p><b>Table 303-1 Minimum required number of Boreholes per structure</b></p> <table border="1" data-bbox="264 1666 807 2040"> <thead> <tr> <th data-bbox="264 1666 523 1816">Footprint Area of the Structure, A (m<sup>2</sup>)</th> <th data-bbox="523 1666 807 1816">Minimum Required Number of Boreholes*</th> </tr> </thead> <tbody> <tr> <td data-bbox="264 1816 523 1854"><math>A \leq 50</math></td> <td data-bbox="523 1816 807 1854">1</td> </tr> <tr> <td data-bbox="264 1854 523 1910"><math>50 &lt; A \leq 500</math></td> <td data-bbox="523 1854 807 1910">2</td> </tr> <tr> <td data-bbox="264 1910 523 1951"><math>500 &lt; A \leq 6000</math></td> <td data-bbox="523 1910 807 1951"><math>2 + (A/1000)^{**}</math></td> </tr> <tr> <td data-bbox="264 1951 523 2040"><math>A &gt; 6000</math></td> <td data-bbox="523 1951 807 2040"><math>2 + (A / 1000)^{**}</math> (Consulting Geotechnical)</td> </tr> </tbody> </table>	Footprint Area of the Structure, A (m <sup>2</sup> )	Minimum Required Number of Boreholes*	$A \leq 50$	1	$50 < A \leq 500$	2	$500 < A \leq 6000$	$2 + (A/1000)^{**}$	$A > 6000$	$2 + (A / 1000)^{**}$ (Consulting Geotechnical)	<ul style="list-style-type: none"> <li>➤ The Geotechnical Report to be submitted by the Consultant is <u>only limited</u> to the determination of the <b>soil properties</b> and <b>classifications</b> underneath the foundation.</li> <li>➤ For the determination of the soil bearing capacity (SBC), the Consultant, may conduct simple in-situ (on-site) soil test as prescribed in the National Structural Code of the Philippines 2015, Section 303.8 Table 303-2 and Section 303.12, attached as Annex A and Annex B respectively, to determine the geotechnical properties of soils, such as but not limited to:             <ol style="list-style-type: none"> <li>1. Static Cone Penetration Test (CPT);</li> <li>2. Dynamic Cone Penetration Test (DCPT); and</li> <li>3. Plate Load Test</li> </ol> </li> <li>➤ Further, when no exhaustive geotechnical site assessment and investigation is performed, especially when no in-situ or very limited test are carried out due to the existing site conditions of the DBP Branches or it may cause disturbance to the Bank's ongoing operation, the Consultant is allowed to use the <b>Presumptive Load Bearing and Lateral Resisting Value</b> as prescribed by NSCP 2015, Table 304-1 under Section 304.2.</li> </ul>
Footprint Area of the Structure, A (m <sup>2</sup> )	Minimum Required Number of Boreholes*										
$A \leq 50$	1										
$50 < A \leq 500$	2										
$500 < A \leq 6000$	$2 + (A/1000)^{**}$										
$A > 6000$	$2 + (A / 1000)^{**}$ (Consulting Geotechnical)										

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Issue/Concern	Clarification
<p><i>Engineer can recommend fewer boreholes subject to review by Building Official. However, total number of boreholes should not be less than 8)</i></p> <p><i>* The minimum required number of boreholes shall in no way be construed as an upper limit value</i></p> <p><i>** Rounded up to the nearest integer</i></p>	<p>Please see Annex C with reference to Presumptive Load Bearing and Lateral Resisting Values.</p>
<p><u>Page 10 of 16; Section 3.4 Duration of Services</u></p> <p>The Consultant shall undertake the services set out in the Terms of Reference for not more than the indicated months per building as illustrated in Figure 2. Project Duration per Building.</p> <p><i>Q: The Figure 2. Project Duration per Building was not included in the Bidding Documents issued to us.</i></p>	<p>➤ Please see Annex D for <b>Figure 2. Project Duration per Building</b>. We have also sent the copy of the <b>Bidding Documents</b> with the complete set of the Terms of Reference to your email.</p>
<p>Section 3.4.3 Health and Safety</p> <p>Rental of PPE and safety signages per DOLE Labor Advisory No. 18 Series of 2020 and compliance to COVID-19 protocols per DPWH D.O. No. 30 Series of 2021.</p> <p><i>Q: As per our experience working in projects outside Metro Manila the health/Covid-19 protocol requirements differ for each LGU. Some will only be requiring antigen Test but other LGUs will require RTPCR Test. Also if our team (5-10 personnel) will be conducting the investigation at site, we need to stay for at least 3 days per site (as for the column foundation investigation it will take</i></p>	<p>➤ The cost for the Health and Safety Requirements including COVID-19 protocols are included in the Approved Budget for the Contract (ABC).</p> <p>➤ Activity I and Activity II can be done simultaneously since Activity I can be performed by one or two technical personnel and only requires simple visual inspection and report submission. The intensive work is during Activity II.</p>

Issue/Concern	Clarification
<p><i>them at least a week) and as per requirement of other LGUs if an Authorized Person Outside Residence (APOR) will be staying at their area for more than 1 day, the APOR must be quarantined for a certain period of time and after which the APOR must again undergo the RTPCR test. The cost for the quarantine period (meals and rental on the quarantine facility) and RTPCR test must be shouldered by the Consultant.</i></p>	

4. Bidders are reminded to use as guide/reference in preparing their Technical and Financial Proposals, the [Checklist of Requirements for the Technical and Financial Component attached in the Bidding Documents on pages 179-181.](#)
5. The Eligibility, Technical and Financial Proposals must be properly tabbed for easy reference and must be submitted in sequence/order per [Checklist of Requirements for the Technical and Financial Component.](#)
6. The BAC shall no longer entertain any question/request for clarification after the issuance of this Bid Bulletin.
7. Please be advised that bids submitted after the deadline shall only be marked for recording purposes, shall not be included in the opening of bids, and shall be returned to the bidder unopened.

For the guidance and information of all concerned.

**ATTY. ERNESTO R. PURUGGANAN**  
Vice President, and  
First Vice Chairperson,  
Bids and Awards Committee

## 3-10 CHAPTER 3 – Earthworks and Foundations

to soil volume changes or shall be isolated from the expansive soil.

**303.5.3 Slab-on-Ground, Foundations**

Moments, shears and deflections for use in designing slab-on-ground, mat or raft foundations on expansive soils shall be determined in accordance with *WRI/CRSI Design of Slab-on-Ground Foundations or PTI Standard Requirements for Analysis of Shallow Concrete Foundations on Expansive Soils*. Using the moments, shears and deflections determined above, non-prestressed slabs-on-ground, mat or raft foundations on expansive soils shall be designed in accordance with *PTI Standard Requirements for Design of Shallow Post-Tensioned Concrete Foundations on Expansive Soils*. It shall be permitted to analyze and design such slabs by other methods that account for soil-structure interaction, the deformed shape of the soil support, the plate or stiffened plate action of the slab as well as both center lift and edge lift conditions. Such alternative methods shall be rational and the basis for all aspects and parameters of the method shall be available for peer review.

**303.5.4 Removal of Expansive Soils**

Where expansive soil is removed in lieu of designing footings or foundations in accordance with Section 302.3.2, the soil shall be removed to a depth sufficient to ensure a constant moisture content in the remaining soil. Fill material shall not contain expansive soils and shall comply with Section 302.3.3.

*Exception:*

*Expansive soil need not be removed to the depth of constant moisture, provided the confining pressure in the expansive soil created by the fill and supported structure exceeds the swell pressure provided that the confining pressure resulting from the fill and structural dead loads exceed the swell pressure by 20%.*

**303.5.5 Stabilization**

Where the active zone of expansive soils is stabilized in lieu of designing footings or foundations in accordance with Section 306.2, the soil shall be stabilized by chemical, dewatering, pre-saturation or equivalent established techniques.

**303.6 Compressible Soils**

If the borehole data show that the proposed structures are to be built above compressible fine-grained soils (with  $N < 6$ ), it is recommended that consolidation tests be performed in accordance with ASTM D 2435 to determine the settlement parameters for the site.

If wide, massive loads within the structures to be built on compressible fine-grained soils are to be expected for prolonged periods of time, the settlement effects on existing adjacent structures should be evaluated as well.

**303.7 Reports**

The soil classification and design-bearing capacity shall be shown on the plans, unless the foundation conforms to Table 305-1. The building official may require submission of a written report of the investigation, which shall include, but need not be limited to, the following information:

1. A plot showing the location of all test borings, surroundings and/or in-situ tests and excavations.
2. Technical descriptions and classifications of the materials encountered.
3. Elevation of the water table, if encountered.
4. Recommendations for foundation type and design criteria, including bearing capacity, provisions to mitigate the effects of differential settlements and expansive soils, provisions to mitigate the effects of liquefaction and soil strength loss, provisions for special foundation solutions, provisions for ground improvement measures, and effects of loads on and due to adjacent structures.
5. Expected total and differential settlement.
6. Laboratory test results of soil samples.
7. Field borehole log containing the following information
  - a. Project location
  - b. Depth of borehole
  - c. Ground elevation
  - d. Ground water table elevation
  - e. Date started and finished

The soil classification and design-bearing capacity shall be shown on the plans, unless the foundation conforms to Table 305-1.

When expansive soils are present, the Building Official may require that special provisions be made in the foundation design and construction to safeguard against damage due to this expansiveness. The building official may require a special investigation and report to provide these design and construction criteria.

**303.8 Soil Tests**

Tables 303-2 and 303-3 summarize the commonly used field and laboratory tests needed in determining the in-situ



soil parameters for use in foundation design and analysis.

Table 303-2 Laboratory and Field Tests

Laboratory / Field Test	ASTM/ Test Designation	Output Data / Parameter Obtained
<b>Classification of Soils</b>		
Moisture content	D2216-05	Moisture/ water content
Grain size analysis	D422-63	Soil gradation
Atterberg Limits	D4318-05	Liquid limit, plastic limit
USCS	D2487-00	Classification of soils
Specific Gravity	D854-05	Specific gravity
Shrinkage Limit	D427-04	Shrinkage limit
Organic Matter	D2974-00	Moisture content, ash content and percent organic matter in soil
Swedish Weight Sounding Test	JIS A1221:2002	$N_{60}$ -value indicating, undrained soil shear strength
UCT Test (Soils)	D2166-00	Strength parameters
Tri-axial (UU Test)	D2850-03a	Strength parameters
Tri-axial (CU Test)	D4767-04	Strength parameters
Oedometer (1-D Consolidation)	D2435-04	Consolidation parameters
Laboratory Vane Shear	D4648-05	Strength parameters
Direct Shear Test	D3080-04	Strength parameters
UCT for Intact Rock	D2938-95	Strength parameters
Standard Penetration Test	D1586-99	N-value
Modified Proctor Test	D1557-02	Maximum dry density
Standard Proctor Test	D698-00a	Maximum dry density
Field Density Test	D1556-00	Maximum dry density
CBR Lab Test	D1883-05	CBR
Cone Penetration Test	D3441-05	Soil strength parameters

Table 303-3 Geophysical Tests

Field Test	ASTM Designation	Output Data / Parameter Obtained
<b>Geophysical Tests</b>		
Seismic refraction	D 5777-00	Maps subsurface geologic conditions, lithologic units and fractures.
Seismic refraction	D 7128	Map the top of bedrock. Estimate elastic wave velocity of subsurface materials.
Ground Penetrating Radar (GPR)	D 6432-11	Maps lateral continuity of lithologic units and detects changes in the acoustic properties of subsurface geomaterials.
Crosshole seismic survey	D 4428	p-wave and s-wave velocity determination, elastic moduli determination
Downhole seismic survey	D 7400	p-wave and s-wave velocity determination, elastic moduli determination
Geo-resistivity Survey	D 6431-99	Determine horizontal traveling compression and shear seismic waves at test sites.

**303.9 Liquefaction Potential and Soil Strength Loss**

When required by Section 303.3, the potential for soil liquefaction and soil strength loss during earthquakes shall be evaluated during the geotechnical investigation. The geotechnical evaluation shall assess potential consequences of any liquefaction and soil strength loss, including estimation of differential settlement, lateral movement or reduction in foundation soil-bearing capacity, and discuss mitigating measures. Such measures shall be given consideration in the design of the building and may include, but are not limited to: ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures.

The potential for liquefaction and soil strength loss shall be evaluated for a site peak ground acceleration that, as a minimum, conforms to the probability of exceedance specified in Section 208.6.2. Peak ground acceleration may be determined based on a site-specific study taking into account soil amplification effects.

In the absence of such a study, peak ground acceleration may be assumed equal to the seismic zone factor in Table 208-3.

**303.10 Adjacent Loads**

Where footings are placed at varying elevations, the effect of adjacent loads shall be included in the foundation design.

**303.11 Drainage**

Provisions shall be made for the control and drainage of surface water around buildings. (See also Section 305.5.5.) and ensure that scour will not threaten such structures.

**303.12 Plate Load Test**

The plate load test is generally used for determination of soil subgrade properties for rigid foundations. If used for building foundations, it must be emphasized that the Depth of Influence is only up to twice (2B) the width (B) of the test plate. Care must be used when extending the results to deeper depths as well as layered soils and variable subsurface conditions.

## SECTION 304 ALLOWABLE FOUNDATION AND LATERAL PRESSURES

**304.1 From Geotechnical Site Investigation and Assessment**

The recommended allowable foundation and lateral pressures shall be estimated from a reasonably exhaustive geotechnical site investigation and assessment, which shall include at least the following:

- a. Description of regional geologic characteristics;
- b. Characterization of in-situ geotechnical conditions;
- c. Factual report on the in-situ and laboratory tests performed to characterize the site (See Section 303.7 for a list of in-situ and laboratory tests commonly carried out for geotechnical site characterization);
- d. Disclosure of the assumptions and the applicable analytical or empirical models used in estimating the allowable foundation and lateral pressures;
- e. Calculations carried out and Factor of Safety (FS) assumed in arriving at the recommended allowable foundation and lateral pressures; and
- f. Evaluation of existing potential geologic hazards and those that may be induced or triggered by the construction/installation of the structure.

The geotechnical site investigation and assessment shall be performed by a geotechnical engineer.

A geotechnical investigation and assessment shall be presented in a report. The report, together with a brief resume and a sworn statement of accountability of the geotechnical engineering consultant who prepared it, shall be included in the submittals to be reviewed and examined by the building official or government authority in charge of issuing the relevant permits such as environmental compliance certificate and/or building permit.

### 304.2 Presumptive Load-Bearing and Lateral Resisting Values

When no exhaustive geotechnical site assessment and investigation is performed, especially when no in-situ or very limited tests are carried out, the presumptive load-bearing and lateral resisting values provided in **Table 304-1** shall be used. Use of these values requires that the foundation design engineer has, at the least, carried out an inspection of the site and has become familiar with the predominant soil or rock characteristics of the site.

Presumptive load-bearing values shall apply to materials with similar physical characteristics and dispositions. Mud, organic silt, organic clays, peat or unprepared fill shall not be assumed to have a presumptive load-bearing capacity unless data from a geotechnical site assessment and investigation to substantiate the use of such a value are submitted.

For clay, sandy clay, silty clay and clayey silt, in no case shall the lateral sliding resistance exceed one-half the dead load.

### 304.3 Minimum Allowable Pressures

The recommended allowable foundation and lateral values shall be with the allowable stress design load combinations specified in Section 203.4.

### 304.4 Foundations Adjacent to Existing Retaining/Basement Walls

In cases where the adjacent building will have more basements than the proposed building, the foundation of the proposed building should be designed so as not to impart additional lateral earth pressures on the existing building.

**Table 304-1 Allowable Foundation and Lateral Pressure**

Class of Materials <sup>1</sup>	Allowable Foundation Pressure <sup>2</sup> (kPa)	Lateral Bearing Below Natural Grade <sup>3</sup> (kPa/m of depth)	Lateral Sliding <sup>4</sup>	
			Coefficient <sup>5</sup>	Resistance <sup>6</sup> (kPa)
1. "Intact" Tuffaceous Sandstone <sup>a</sup>	1,000	300	-	-
2. "Lightly Weathered" Tuffaceous Sandstone <sup>b</sup>	500	150	-	-
3. Silty Gravel and (or) Gravel(GW & GP)	100	30 -	0.35	-
4. Well-graded Sand, Poorly-graded Sand, Silty Sand, Clayey Sand, Silty Gravel and Clayey Gravel (SW, SP, SM, SC, GM and GC)	75	25	0.25	-
5. Clay, Sandy Clay, Silty Clay and Clayey Silt (CL, ML, MH, and CH)	50 <sup>c</sup>	15	-	7

<sup>1</sup> A geotechnical site investigation is recommended for soil classification (Refer to Section 303).

<sup>2</sup> All values of allowable foundation pressure are for footings having a minimum width of 300mm and a minimum depth of 300mm into the natural grade. Except as noted in Footnote "b", an increase of 20% is allowed for each additional 300mm of width and/or depth to a maximum value of three times the designated value. An increase of one-third is permitted when using the alternate load combinations in Section 203.4 that include wind or earthquake loads.

<sup>3</sup> The resistance values derived from the table are permitted to be increased by the tabular value for each additional 300 mm of depth to a maximum of 15 times the tabular value. Isolated piles for uses such as flagpoles or signs and poles used to support buildings that are not adversely affected by a 12mm motion at the ground surface due to short-term lateral loads are permitted to be designed using lateral-bearing values equal to two times the tabular values.

<sup>4</sup> Lateral bearing and sliding resistance may be combined.

<sup>5</sup> Coefficient to be multiplied by the dead load.

<sup>6</sup> Lateral sliding resistance value to be multiplied by the contact area. In no case shall the lateral sliding resistance exceed one-half the dead load.

<sup>a</sup> Must satisfy both  $UCT_{ult} = 3Mpa$  and  $RQD \geq 70$

<sup>b</sup> Must satisfy both  $UCT_{ult} = 1Mpa$  and  $RQD \geq 50$

<sup>c</sup> No increase shall be allowed for an increase of width.



Figure 2. Project Duration per Building

	<b>BBG Cluster/Branch</b>	<b>Duration (Months)</b>
<b>1</b>	<b>BBG – Northern Luzon</b>	
	APARRI	2.0
	ILAGAN	2.0
	SOLANO	2.0
	DAGUPAN	2.0
	LAOAG	2.0
<b>2</b>	<b>BBG - Central Luzon</b>	
	CABANATUAN	3.0
	TARLAC	2.0
<b>3</b>	<b>BBG - Southern Tagalog</b>	
	SAN JOSE	3.0
<b>4</b>	<b>BBG - Bicol</b>	
	DAET	2.0
	LEGASPI	3.0
	NAGA	2.0
<b>5</b>	<b>Head Office</b>	
	ANTIPOLO	3.0
<b>6</b>	<b>BBG - Central and Eastern Visayas</b>	
	CATARMAN	2.0
	CEBU	3.0
	TACLOBAN	2.0
	TAGBILARAN	2.0
<b>7</b>	<b>BBG - Western Visayas</b>	
	DUMAGUETE	2.0
	KALIBO	2.0
<b>8</b>	<b>BBG - Northern Mindanao</b>	
	BUTUAN	2.0
	CAGAYAN DE ORO	2.0
	MALAYBALAY	2.0
	OZAMIZ	2.0
	SURIGAO	2.0
	ILIGAN	2.0
<b>9</b>	<b>BBG - Southern Mindanao</b>	
	COTABATO	2.0
	DIGOS	2.0
	GENERAL SANTOS	2.0
	KIDAPAWAN	2.0
	MATI	2.0
	TACURONG	2.0

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	DAVAO	3.0
<b>10</b>	<b>BBG - Western Mindanao</b>	
	DIPOLOG	2.0
	PAGADIAN	2.0
	ZAMBOANGA	3.0

A **Project Work Schedule (PWS)** shall be submitted to DBP prior to issuance of **Notice to Proceed (NTP)**.