



**General Bid Bulletin No. 1**  
**July 23, 2019**

**SELECTION OF CONSULTANTS FOR THE**  
**NEW CEBU INTERNATIONAL CONTAINER PORT PROJECT (NCICPP)**  
**Loan Agreement #: PHL-19**

This General Bid Bulletin is issued to clarify certain provision of the Request for Proposal (RFP) issued to the aforementioned project, considering the issues raised by Consultants during Pre-Proposal Conference held on July 11, 2019. Likewise, respond to Consultants written queries received for the project.

**A. CLARIFICATIONS**

<b>REFERENCE</b>	<b>CLARIFICATION / RESOLUTION</b>
<b>Queries to the Request for Proposal (RFP)</b>	<b>Kindly refer to Attachment "A" for your reference</b>

All other related provisions in the Request for Proposal correspondingly affected by these clarifications/inclusions are likewise deemed amended to conform to this General Bid Bulletin.

Clarification/Inclusion made herein shall be considered an integral part of the Request for Proposal

**(SGD) JOSEPH CONRAD D. DUEÑAS**  
Chairperson  
Bids and Awards Committee VI

**ATTACHMENT "A"**

**CLARIFICATION**

ITEM	REFERENCE	SECTION/CLAUSE/PARAGRAPH	INQUIRIES/CLARIFICATIONS	RESPONSES TO THE CLARIFICATIONS
1	Page 26 of RFP	<p><b>Section 3</b> The Consultant should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by the Client.</p>	<p>- Does the Consultant provide the copies of relevant document and references on the experience to be included in Form Technical-2 during the Contract Negotiation?</p>	<p><b>Proofs should be submitted and attached to form Technical 2 of proposal.</b></p>
2	Page 59 of RFP	<p><b>Terms of Reference (Sec. 1.3)</b> - The Project components include consulting services (i.e., preliminary concept design, detailed engineering design review, bidding/procurement assistance, construction supervision, ex-post evaluation), civil works (i.e., detailed engineering design/construction: berthing facilities, revetment for reclamation, dredging and reclamation, paving and road, bridge, water supply &amp; drainage/electric installation, architectural facilities, and electronic communication facilities) and procurement of four (4)-quay crane cargo handling equipment.</p>	<p>Project component consists of consulting services, civil works, procurement of four (4)-quay crane cargo handling equipment. - Kindly clarify whether the consulting services for procurement of four (4)-quay crane cargo handling equipment shall be included for the Consultant's responsibility or not.</p>	<p><b>Consultant shall prepare the tender documents for the procurement of four (4)-quay crane cargo handling equipment.</b></p>
3	Page 60 and 61 of RFP	<p><b>Terms of Reference (Sec. 3.2, 3.3)</b> 3.2 Address Environmental Concerns 3.3 Assistance in the Implementation and Monitoring of Resettlement</p>	<p>- According to the scope of services in "Terms of Reference", it is described tasks and activities regarding Environmental concerns</p>	<p><b>Concerned request will be discussed with the selected Consultant during contract negotiation.</b></p>

4	Page 60 of RFP	<p><b>Terms of Reference (Sec. 3.1.1.2)</b>  3.1.1.2 Provide assistance/professional advice as regards appropriate procedures, locations and number of boring tests to be undertaken as well as in the conduct of hydrodynamic numerical modeling test, thorough soil investigation surveys, topographic surveys and bathymetric surveys.</p>	<p>Action Plan (RAP).</p> <p>and Resettlement Action Plan. However, experts who can normally take this tasks and activities such as Environmental Specialist and Resettlement Specialist are not involved in the Manning Requirements.</p>	
5	Page 5, 18 and 96 respectively of RFP	<p><b>Section 2</b>  1.4 The Employer will timely provide at no cost the Consultant the inputs and facilities specified in the Data Sheet, assist the firm in obtaining licenses and permits needed to carry out the Services, and make available relevant project data and reports.  1.4 The Employer will provide the following inputs and facilities (upon request)  <b>GCC</b>  5.3 Services, Facilities and Property of the Employer</p>	<p>- Does the Consultant conduct of hydrodynamic numerical modeling test, thorough soil investigation surveys, topographic surveys and bathymetric surveys?</p> <p>- In general, the Consultant bears the cost for site offices, accommodation and laboratory test equipment during the Design and Bidding Assistance stage, and the Contractor is responsible for these expenditures during Detailed Design and Construction Supervision for the Consultant. Does it correct for this Project? Please Clarify this.</p>	<p><b>Yes. The Consultant will also conduct hydrodynamic numerical modeling test, thorough soil investigation surveys, topographic surveys and bathymetric surveys.</b></p> <p><b>Shall be clarified in the next issuance of bid bulletin.</b></p>

6	Page 26 of RFP, Page 1 of 23 of Appendix G (DEC)	<b>B - Consultant's Experience</b>	<p>The currency for the Financial Proposal and conversion rate are clearly mentioned in Section 2.3.7.2. However, there is not the conversion rate for the Approx. Contract Value (in US\$) / Amount paid to your firm of the Consultant's Experience. Please clarify it.</p>	<p>The conversion rate to US dollar will be based on the rate at the time the contract was signed.</p>
7	Page 26 of RFP, Page 1 of 23 of Appendix G (DEC)	<b>B - Consultant's Experience</b>	<p>In Appendix G-(i)-b), does Experience in Asia except Korea include all the Asian countries, not only Southeast Asia but also Middle East or Northeast Asia?</p>	<p>Yes. It includes all other Asian countries.</p>
8	Page 26 of RFP, Page 1 of 23 of Appendix G (DEC)	<b>B - Consultant's Experience</b>	<p>Does Appendix G-(i)-b)-b.1 mean Preliminary Conceptual Design + Assistance in Bidding or Detailed Engineering Design + Assistance in Bidding?</p>	<p>In order for the experience to be considered it should have any of the following:  1. Preliminary Conceptual Design and Assistance in Bidding; or  2. Detailed Engineering Design and Assistance in Bidding</p>
9	Page 5 of 23 of Appendix G (DEC)	<b>Curriculum Vitae (CV) for Proposed Professional Staff</b>	<p>In Appendix G-(iii)-I-2-A)-1.1., does Licensed Engineer mean an engineer with civil engineering license? Otherwise, at the note for local expert's qualification, it says Licensed Engineer are accredited with the Professional Regulation Commission (PRC). Thus, for the international experts, is it acceptable for a Licensed Engineer has registered at Korean</p>	<p>Yes. For Foreign Experts, "Licensed Engineer" refers to any of the following:  1. Certified Engineer - Engineer Civil Engineering, Engineer Electricity and Engineer Architecture, or  2. Professional Engineer - Professional Engineer Harbor Costal</p>



10	Page 5 of 23 of Appendix G (DEC)	<p><b>Curriculum Vitae (CV) for Proposed Professional Staff</b></p>	<p>Construction Engineering Association without acquiring civil engineering license? Please clarify it.</p> <p>- In Appendix G-(iii)-I-2-C)-1), which Asian countries are included in other Southeast Asian countries? Please kindly list up those countries.</p>	<p>Engineering, Professional Engineer Geology and Geotechnics and Professional Engineer Civil Engineering Structures.</p>
11	Page 66 of RFP	<p><b>Terms of Reference Foreign Consultants</b></p>	<p>- Project Manger's required criteria is Professional in Harbor Coastal Engineer however we have question whether it is only good for Harbor Coastal Engineer or otherwise Professional in Construction Engineer who have most experiences in port construction field would be considerable equal value as Harbor Coastal Engineer and opportunities to evaluated.</p>	<p>Southeast Asian countries are the following:</p> <ol style="list-style-type: none"> <li>1. Philippines,</li> <li>2. Brunei,</li> <li>3. Cambodia,</li> <li>4. Indonesia,</li> <li>5. Laos,</li> <li>6. Malaysia,</li> <li>7. Myanmar,</li> <li>8. Singapore,</li> <li>9. Thailand, and</li> <li>10. Vietnam.</li> </ol> <p>The requirement is maintained as "Professional in Harbor Coastal Engineer."</p>

12	Page 67 of RFP	<p><b>Terms of Reference Foreign Consultants</b></p> <ul style="list-style-type: none"> <li>- Chief Architect and Electrical Engineer required experience in similar position in seaport projects or seaport related electrical facilities however we understand that the projects of seaport has not very much opportunities to take handling various items of building or electrical works, even though most of engineers having a ample experiences to understand their works and responsible, therefore we cordially suggest to open limitation of evaluation criteria.</li> </ul>	<p>The requirement is maintained as stated in the RFP.</p>
13	Page 60, 65, 73 and 75 of RFP	<p><b>Terms of Reference (Sec. 3 and 4)</b></p> <p>4.1.2 Preparation of Bid Document: 6 months</p> <p>4.1.3 Assistance in Bidding: 3 months</p> <p>4.1.4 Detailed Design, Assistance in Bidding and Construction Supervision: 35 months</p> <p><b>- Annex "A" Manning Requirements</b></p> <p>A. BIDDING ASSISTANCE</p> <p>B. CONSTRUCTION SUPERVISION</p> <p><b>- Annex "B" Project Implementation</b></p>	<p><b>No. The Manning Requirements shall be provided by the Consultants in its proposed approach and methodologies.</b></p> <p>Manpower Requirement Based on the "3. Scope of Services", the Consultant shall prepare the bidding documents including the preliminary conceptual design, performance specifications and parameters for the project for six (6) months from the commencement of the Services. However, no manpower has been allocated for this task.</p> <ul style="list-style-type: none"> <li>- Please clarify if the Client would provide further manning requirements.</li> </ul>
14	Page 1 of 23 of Appendix G (DEC)	<p><b>Appendix G –Detailed Evaluation Criteria</b></p> <p>(i) Experience and Capability of the Consultant (Consultancy Firm)</p> <p>b) Experience in Asia except Korea</p>	<p><b>No. Papua New Guinea is not considered as part of Asia.</b></p> <ul style="list-style-type: none"> <li>- Since Indonesia and Papua New Guinea share New Guinea Island, we assume that Papua New Guinea is able to be considered as Asia. Please clarify it.</li> </ul>

15	Page 1 of 23 of Appendix G (DEC)	<p><b>Appendix G –Detailed Evaluation Criteria</b></p> <p>(i) Experience and Capability of the Consultant (Consultancy Firm)</p> <p><b>NOTE:</b></p> <p>- For Joint Ventures/ Consortiums of shortlisted/non-shortlisted consultants, a collective experience for the above services (i)(a) &amp; (i)(b) shall be considered as one (1) complete project.</p>	<p>- As we understand, this NOTE means that the experience of JV members of different section or works of the same project will be considered as one (1) project. Please clarify whether our understanding is correct.</p>	<p><b>Yes. The experience of the JV member regardless of section or work in the same project will be counted as one (1) project.</b></p>																		
16	Page 26 of RFP	<p><b>Section 3. Technical Proposal – Sample</b></p> <p>Technical-2B: Consultants' Experience</p>	<p><b>Proven Documents</b></p> <p>- Please clarify whether the Consultant shall submit proven documents of work experience or not</p>	<p><b>Proofs of Consultants' Experience shall be submitted during contract negotiation as may be required by the Client.</b></p>																		
17	Page 73 of RFP	<p><b>Annex "A" Manning Requirements (Foreign Expert)</b></p> <p><b>A. Bidding Assistance</b></p> <p>Position Grade</p> <table border="0"> <tr> <td>1 Professional Procurement Specialist</td> <td>P.E.</td> </tr> <tr> <td>2 Procurement Specialist</td> <td>H.G.</td> </tr> </table> <p><b>B. Construction Supervision</b></p> <p>Position Grade</p> <table border="0"> <tr> <td>1 Project Manager</td> <td>P.E.</td> </tr> <tr> <td>2 Senior Harbor Engineer</td> <td>S.G.</td> </tr> <tr> <td>3 Harbor Engineer</td> <td>H.G.</td> </tr> <tr> <td>4 Geotechnical Engineer</td> <td>S.G.</td> </tr> <tr> <td>5 Structural Engineer</td> <td>S.G.</td> </tr> <tr> <td>6 ChiefArchitect</td> <td>S.G.</td> </tr> <tr> <td>7 Electrical Engineer</td> <td>S.G.</td> </tr> </table>	1 Professional Procurement Specialist	P.E.	2 Procurement Specialist	H.G.	1 Project Manager	P.E.	2 Senior Harbor Engineer	S.G.	3 Harbor Engineer	H.G.	4 Geotechnical Engineer	S.G.	5 Structural Engineer	S.G.	6 ChiefArchitect	S.G.	7 Electrical Engineer	S.G.	<p>- Please clarify what the abbreviations of grade stand for.</p>	<p><b>Abbreviations:</b></p> <p><b>P.E. – Professional Engineer</b>  <b>H.G. – High Grade</b>  <b>S.G. – Special Grade</b></p>
1 Professional Procurement Specialist	P.E.																					
2 Procurement Specialist	H.G.																					
1 Project Manager	P.E.																					
2 Senior Harbor Engineer	S.G.																					
3 Harbor Engineer	H.G.																					
4 Geotechnical Engineer	S.G.																					
5 Structural Engineer	S.G.																					
6 ChiefArchitect	S.G.																					
7 Electrical Engineer	S.G.																					

18	Page 73 of RFP and Page 22 of 23 of Appendix G (DEC)	<p><b>Annex "A" Manning Requirements</b></p> <ul style="list-style-type: none"> <li>- BIDDING ASSISTANCE (Local Experts) Procurement Specialist 2 No of Persons</li> </ul> <p><b>Appendix G --Detailed Evaluation Criteria</b></p> <ul style="list-style-type: none"> <li>(iii) Key Professional Staff Qualification and Competence for the Assignment (Local Expert) <ul style="list-style-type: none"> <li>11. Procurement Specialist: Qualifying Mark -1.00</li> </ul> </li> </ul>	<p>Mark for Local Procurement Specialist</p> <ul style="list-style-type: none"> <li>- Two (2) nos. of person are allotted as Local Procurement Specialist, but qualifying mark for this position is 1.00 for one (1) person. Please clarify if we consider this position's mark as a half (0.05) for each expert.</li> </ul>	<p><b>Consultants should submit the two CV's, however, the expert with the HIGHER rating will be considered.</b></p>
19	Page 73 of RFP	<p><b>Annex "A" Manning Requirements</b></p> <p>Construction Supervision Local Experts</p> <ul style="list-style-type: none"> <li>- Inspectors</li> <li>- Lab Technician</li> <li>- Administrator</li> </ul>	<ul style="list-style-type: none"> <li>- Please clarify we shall submit CVs of non-evaluated local experts</li> </ul>	<p><b>No need to submit CVs for the following:</b></p> <ol style="list-style-type: none"> <li>1. Inspectors</li> <li>2. Lab Technician</li> <li>3. Administrator</li> </ol>
20	Page 23 of 23 of Appendix G (DEC)	<p><b>Appendix G --Detailed Evaluation Criteria</b></p> <ul style="list-style-type: none"> <li>(iii) Key Professional Staff Qualification and Competence for the Assignment (Foreign Experts) <ul style="list-style-type: none"> <li>8. Chief Architect: Professional Architect</li> </ul> </li> </ul> <p>Other positions: Licensed Engineer</p>	<p><b>License Requirements of Foreign Experts</b></p> <ul style="list-style-type: none"> <li>- There are few more Professional Licenses such as 'Professional Engineer in Architectural Execution' in architectural field in Korea. Architect is considered as be close to an aesthetic design aspect rather than structural design and construction. Therefore, we would like to request you that 'Professional Engineer in Architectural Execution' can be regarded as the equivalent one.</li> <li>- Please clarify that which level of license is required for Licensed</li> </ul>	<p><b>The requirement is maintained as stated in the RFP.</b></p> <p><b>For Foreign Experts, License Engineer refers to any of the following:</b></p> <ol style="list-style-type: none"> <li>1. Certified Engineer - Engineer Civil Engineering, Engineer Electricity and Engineer Architecture, or</li> <li>2. Professional Engineer - Professional Engineer Harbor Costal Engineering, Professional Engineer Geology and</li> </ol>





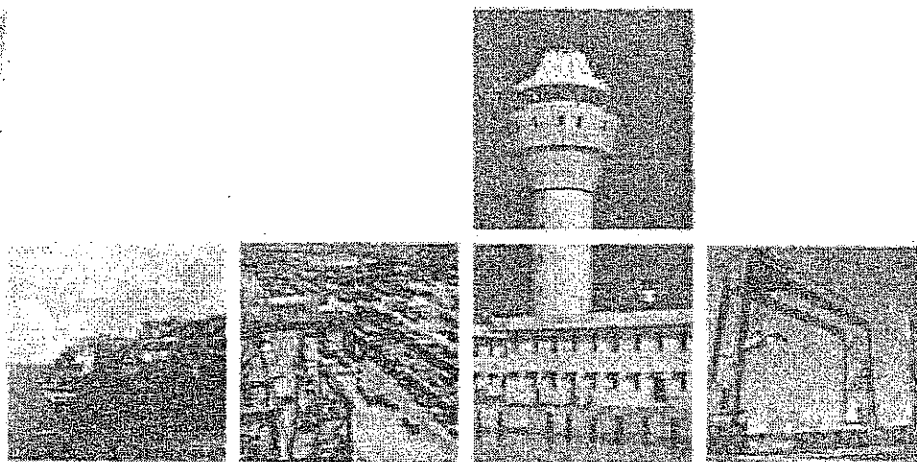
21	Page 12 and 13 of 23 of Appendix G (DEC)	<p><b>Appendix G –Detailed Evaluation Criteria</b>          (iii) Key Professional Staff Qualification and Competence for the Assignment (Foreign Experts)          10. Professional Procurement Specialist (P.E.)          11, 12 Procurement Specialist (H.G.)          3. Length of Service with Firm</p>	<p>Engineer.</p> <p><b>Foreign Procurement Specialist</b>          This position requires at least 8 (or 12 years) of experiences in the conduction of procurement for Foreign Funded (JICA, ADB, WB, EDCF) Projects.          - We assume that experiences in construction projects would be considered since it is not practical having such years of experiences in consulting services only. Please clarify it. It is quite difficult to find qualified Procurement Specialist with sufficient experiences of Foreign Funded projects. Hence, we kindly request you to consider that the Consultant is allowed to outsource independent expert for only Procurement Specialist position in order to propose more qualified candidates.</p>	<p><b>Geotechnics and Professional Engineer Civil Engineering Structures</b></p> <p><b>Yes. Experience in construction projects will be considered.</b></p> <p><b>On the request to outsource independent expert for Procurement Specialist position, the firm may outsource the Expert. However, for rating/scoring purposes, the DEC will still be applied.</b></p>
22	Page 23 of 23 of Appendix G (DEC)	<p><b>Appendix G –Detailed Evaluation Criteria</b>          (iii) Key Professional Staff Qualification and Competence for the Assignment.          NOTE:          - Experience in the criteria for "Experience in the Philippines or other Southeast countries" includes conceptual plan, engineering design and construction supervision.</p>	<p>- Please clarify if feasibility study and master plan are included in this criteria.</p>	<p><b>No. The requirement only includes the conceptual plan, engineering design and construction supervision.</b></p>

*A*

23			<ul style="list-style-type: none"> <li>- Clarification if performance bond would be a requirement.</li> </ul>	<b>Yes. Performance Bond is required for this project.</b>
24			<ul style="list-style-type: none"> <li>- Request for a copy of the Feasibility Study.</li> </ul>	<b>Attached as annex "A-1" is the Feasibility Study for the NCICPP.</b>
25			<ul style="list-style-type: none"> <li>- Clarification on the definition of seaport project.</li> </ul>	<b>Please refer to DEC notes, page 23 of 23.</b>
26	Page 4-14 of DEC	<b>DEC</b> <ul style="list-style-type: none"> <li>- Foreign Expert, Experience in the Philippines or other Southeast Asian countries and proficiency with the English Language</li> </ul>	<ul style="list-style-type: none"> <li>- Requesting if other countries, which is not part of Southeast Asian countries will be considered.</li> </ul>	<b>No. The requirement is maintained.</b>

# Report

Feasibility Study for New Cebu International Port



April. 2016

 **Korea Eximbank**  
THE EXPORT-IMPORT BANK OF KOREA

# Executive Summary

- **Project Overview**
  - Project background and necessity
  - Basic structure of the project
- **Cargo Volume Estimation**
- **Conceptual design of the project**
  - Selection of the project site
  - Master plan for the new port
  - Port operation plan
- **Project Cost Estimation**
  - Construction cost
  - Consultant cost
  - Price contingency
  - Summary of project cost
- **Economic and Financial Feasibility Review**
  - Basic assumption
  - Evaluation of income and benefits
  - Financial feasibility
  - Economic feasibility
- **Environmental and social impacts**
  - Environmental impact
  - Social impact
- **Conclusion**

## □ **Project Overview**

### ○ **Project Background and Necessity**

- Since the Philippines is made up of many islands, a large majority of the nation's cargo volume is dependent on ports. Cebu Baseport, as a hub port in the Visayas, has been playing an important role, supplying import and export goods to the neighboring islands as well as Cebu Island. The cargo demand of the port is continuously increasing.
- In particular, the capacity of the import and export container yard is 7,373TEU (max. 8,808TEU) and currently about 7,100TEU containers are being stacked at the yard; i.e. the yard utilization rate exceeds 97% (min. 80%).
- For this reason the need for the expanded Cebu port has arisen, but the geographical conditions of Cebu Baseport doesn't allow the port to secure enough water depth and yard area for expansion. Accordingly, the development of a new port which can share certain functions of the existing port has been reviewed since early 2000.
- The purpose of this project is to share the excessive cargo volume of Cebu Baseport with the new port by transferring the international container terminal to the new one.
  - The new exclusive international container terminal will contribute to relieving a lack of cargo handling and container stacking capacities along with handling the increasing cargo demand.
  - With renovation of Cebu Baseport, the operation efficiency will be improved.
  - The road congestion around Cebu Baseport will be relieved because of the reduced cargo transport in the area.
- The project will ultimately contribute to the national as well as the local economy by improving cargo handling capacity and reducing the logistics cost.

### ○ **Basic Structure of the Project**

- The location of the New Cebu International Port is planned to be in Consolacion in the form of an island so as to conserve mangroves along the shoreline in the region.
- The wharf is planned to be composed of two berths for 2,000TEU vessels. The total length is 500 meters and planned water depth is (-)12 meters. If the (-)14m depth is secured through a dredging in the future, a 4,000TEU vessel along with a 1,000TEU vessel can berth at the same time.
- The total area of the new port is planned to be 25ha and its annual cargo handling capacity is 375,900TEUs. The quay will be equipped with 4 quay cranes and various other superstructures such as an operation building, gate, CFS, CIS, maintenance factory, substation, gas station, etc. will be arranged throughout the port area.
- The access road to the new port will be connected with the existing road. The access road is composed of the 1,000m inland road and 300m offshore bridge.

# Executive Summary

## ○ *Project Site*

Area	Container Yard Capacity	Stack Height
25ha (500m x 500m)	3,600TGS	4

## ○ *Berthing Facility*

Length of Quay	Number of Berths	Water Depth at Quay
500m	2 berths	(-)12.0m

## ○ *Revetment*

Length of Revetment	Structural Type
1,500m	Rubble mound type

## ○ *Main Equipment*

Equipment	Number of Equipment
Quay Crane	4 units

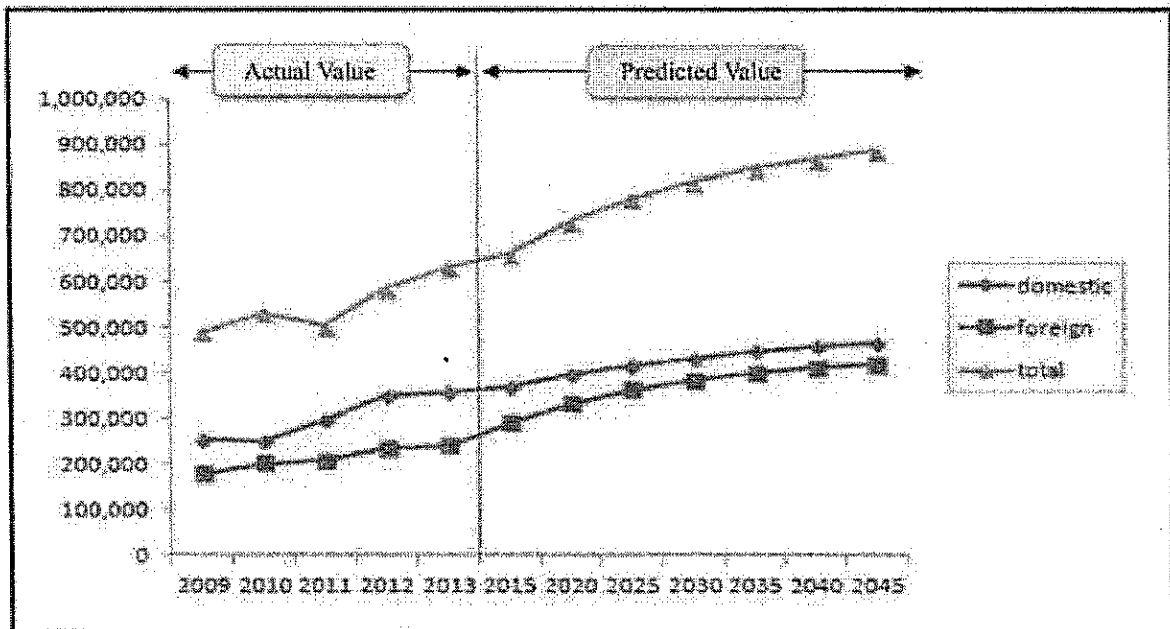
## ○ *Access Road*

Access Road (Inland)	Access Road (Offshore Bridge)
1,000m	300m

**□ Cargo Volume Estimation**

- To estimate the volume of container cargo that will use the new port the cargo volume estimation was conducted.
- The statistical data of the Philippines' port cargo record provided by CPA and on their website was utilized for the future demand estimation. In this study, statistical programs, SPSS statistic 18 and Minitab 17, are used for demand prediction through a time-series analysis
- The demand estimation of the growth period was conducted using the Gompertz Curve<sup>1</sup>. It is one of the time-series analysis methods used for demand forecasting and belongs to the category of the growth curve method.
- The results of the foreign container demand for Cebu port are as shown below.

Cases	Container(TEU)		
	domestic	foreign	total
2015	370,168	290,305	660,473
2020	396,026	332,321	728,347
2025	416,818	363,131	779,949
2030	432,266	384,876	817,142
2035	447,670	399,841	847,511
2040	457,142	409,971	867,113
2045	466,815	420,358	887,173



- As a result of the demand estimation, both domestic and foreign container cargo show a relatively gentle increase at the annual increase of 0.8% and 1.2%, respectively.

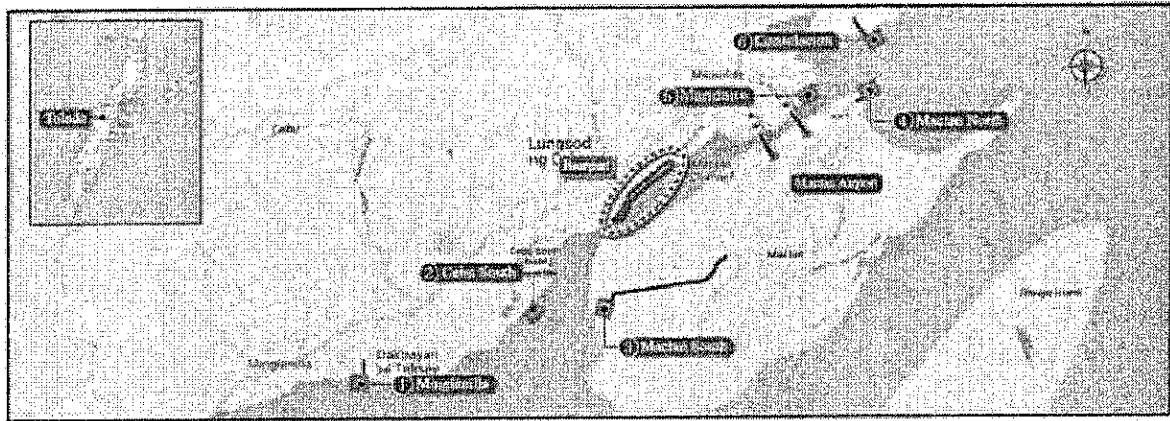
<sup>1</sup> The Gompertz Curve, named after Benjamin Gompertz, is a sigmoid function; also known as the Gompertz function. This model is useful in estimating the potential demand and favorable to predict the points of a rapid increase and decrease of demand. Thus, this study applied the Gompertz Curve Model to estimate the future cargo demand of New Cebu Port.

# Executive Summary

## □ Conceptual Design of the Project

### ○ Selection of the Project Site

- Seven areas located in Cebu and Mactan Islands were compared.



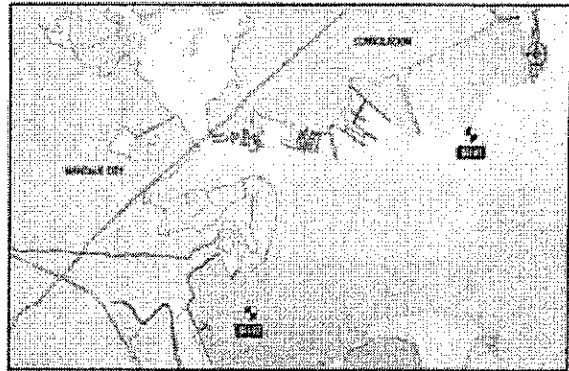
- After reviewing the 7 proposed sites, Consolacion and Mandaue were selected as the proposed sites for the New Port by virtue of having excellent maritime conditions with low wave heights as compared to the other proposed sites.

Area	Ⓔ Natural elements	Ⓕ Surrounding elements	Ⓖ Environmental & Civil Complaint elements
Minglanilla	<ul style="list-style-type: none"> <li>• Due to high wave, a breakwater is needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Access road to new port required</li> <li>• Additional navigational access channel is required</li> </ul>	<ul style="list-style-type: none"> <li>• On the proposed site there is a separate port project ongoing, therefore project overlap is a concern.</li> </ul>
Cebu South	<ul style="list-style-type: none"> <li>• An outer facility is required due to high wave</li> </ul>	<ul style="list-style-type: none"> <li>• Access road for a new port is already prepared</li> <li>• Conflicts with the change in use of the landfill site</li> </ul>	<ul style="list-style-type: none"> <li>• Expropriation of land in hinterland is difficult</li> <li>• Civil complaints from nearby commercial facilities</li> </ul>
Mactan South	<ul style="list-style-type: none"> <li>• Breakwater is required</li> <li>• A large amount of dredging required</li> </ul>	<ul style="list-style-type: none"> <li>• When transporting logistics to Cebu Island, a new bridge would be required</li> </ul>	<ul style="list-style-type: none"> <li>• Civil complaints related to transportation are a concern</li> <li>• Unfavorable for the environment due to dredging</li> </ul>
Mactan North	<ul style="list-style-type: none"> <li>• Outer facility required</li> <li>• Located near the navigational channel</li> </ul>	<ul style="list-style-type: none"> <li>• When transporting logistics to Cebu Island, a new bridge would be required</li> </ul>	<ul style="list-style-type: none"> <li>• Civil complaints related to transportation are a concern due to increased traffic on the Mactan bridge</li> </ul>
Consolacion	<ul style="list-style-type: none"> <li>• Located on sheltered waters, maritime conditions are excellent</li> </ul>	<ul style="list-style-type: none"> <li>• Access road to new port required</li> <li>• Advantageous for future expansion</li> </ul>	<ul style="list-style-type: none"> <li>• Land acquisition for the access road is required.</li> <li>• Mangrove is distributed along the shoreline.</li> </ul>
Mandaue	<ul style="list-style-type: none"> <li>• Located on sheltered waters, maritime conditions are excellent</li> </ul>	<ul style="list-style-type: none"> <li>• Access road to new port required</li> <li>• Advantageous for reducing project cost</li> </ul>	<ul style="list-style-type: none"> <li>• A consultation with Cebu City is required to expropriate the hinterland</li> </ul>
Toledo	<ul style="list-style-type: none"> <li>• Being far away from Cebu Port, it's disadvantageous for transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Far away from the main demand area for international cargo</li> </ul>	<ul style="list-style-type: none"> <li>• Civil Complaints are a concern when moving clean cargoes due to the coal terminal</li> </ul>

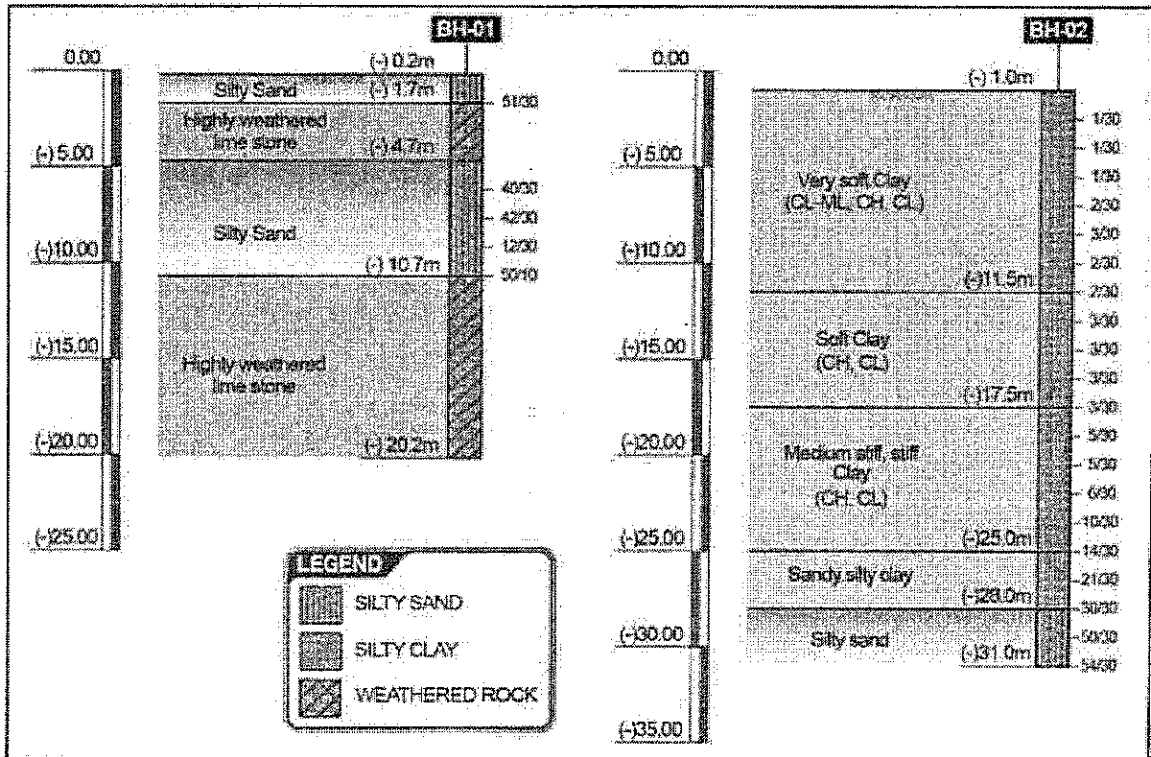


- Ground features at the proposed sites

- Soil investigation was performed to provide basic data required for design and construction by understanding soil distribution and the geotechnical features at proposed project sites
- One borehole per one site was drilled in the front water of each proposed site; Mandaue and Consolacion.



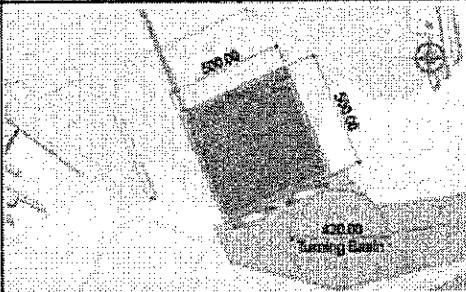
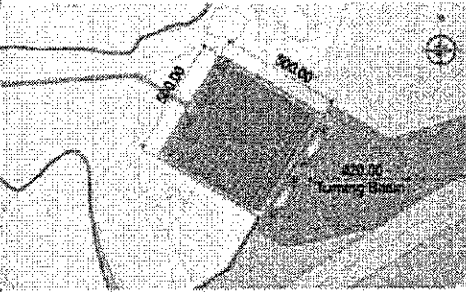
- Soil strata in Consolacion site (BH-01)
  - : A lime stone layer of  $N > 50$  was found at (-)10.7m and a sand layer is distributed at top. Therefore, no soil improvement needs to be conducted.
- Soil strata in Mandaue site
  - : A very soft clay of  $N < 4$  is distributed at a 17m thickness and the bearing layer of  $N > 30$  was found at a depth of (-)28m. Therefore, soil improvement is required for the site.
- As results of the soil investigation, it was found that the hard enough soil is distributed at the Consolacion site whereas soft soil prevails at the Mandaue site.



# Executive Summary

## - Selection of new port site

- Of the 2 selected candidate sites, Consolacion was found to be preferable due to its better expandability in the future and no interference expected with other development plans in the region.

Category	Consolacion	Mandaue
<b>New Port Layout Plan</b>		
	<ul style="list-style-type: none"> <li>• To be developed in the form of an island away from the coast</li> </ul>	<ul style="list-style-type: none"> <li>• A new port development connected to land</li> </ul>
<b>Site Preparation Conditions</b>	<ul style="list-style-type: none"> <li>• By preparing an artificial site offshore without using existing hinterland, construction volume for revetment and reclamation increases</li> <li>• The road connecting the existing coastline and new port is planned as an offshore bridge type.</li> </ul>	<ul style="list-style-type: none"> <li>• Since hinterland is prepared by using the existing pond, the construction cost and construction period can be reduced</li> <li>• To open an access road, hinterland area shall be purchased.</li> </ul>
<b>Soil Condition</b>	<ul style="list-style-type: none"> <li>• Favorable (no soil improvement is required by virtue of distribution of the sandy layer)</li> </ul>	<ul style="list-style-type: none"> <li>• Unfavorable (Soil improvement needs to be conducted due to the soft soil distributed throughout the area)</li> </ul>
<b>Road Condition</b>	<ul style="list-style-type: none"> <li>• The existing road to be connected to the access road is narrow.</li> </ul>	<ul style="list-style-type: none"> <li>• The access road will be linked to the existing road which is in good condition.</li> </ul>
<b>Construction Conditions</b>	<ul style="list-style-type: none"> <li>• Normal (Mostly maritime construction)</li> </ul>	<ul style="list-style-type: none"> <li>• Good (Relatively less maritime construction)</li> </ul>
<b>Possibilities for Future Expansion</b>	<ul style="list-style-type: none"> <li>• The site can be expandable in the future depending on demand.</li> </ul>	<ul style="list-style-type: none"> <li>• Expandability is somewhat restricted due to the narrow water front.</li> </ul>
<b>Environmental Impact</b>	<ul style="list-style-type: none"> <li>• Normal (Mangrove habitat is protected due to site preparation away from coastline)</li> </ul>	<ul style="list-style-type: none"> <li>• Possible to minimize the environmental impact as all of the dredged soil will be disposed of into the pond area.</li> </ul>
<b>Compensation</b>	<ul style="list-style-type: none"> <li>• Purchasing land is required to construct the access road (religious facilities and private houses exist behind the proposed port site)</li> </ul>	<ul style="list-style-type: none"> <li>• Purchasing the state owned Pond is a requirement for the project.</li> <li>• Purchasing land is required to construct the access road.</li> </ul>
<b>Civil Complaints</b>	<ul style="list-style-type: none"> <li>• Being located in the offshore area, civil complaints will be minor.</li> </ul>	<ul style="list-style-type: none"> <li>• Residents near the port area may complain about noise from the port operation.</li> </ul>
<b>Interference</b>	<ul style="list-style-type: none"> <li>• No interference expected</li> </ul>	<ul style="list-style-type: none"> <li>• The future plans for the bridge linking Mandaue and Lapu Lapu and coastal road along the east coast of Cebu Island may create issues later on.</li> </ul>
<b>Transport distance</b>	<ul style="list-style-type: none"> <li>• Close to the final destination (Mandaue, Mactan Island) of most international containers</li> </ul>	<ul style="list-style-type: none"> <li>• Close to the final destination (Mandaue, Mactan Island) of most international containers</li> </ul>
<b>Direct project costs (1,000 USD)</b>	177,115	165,718
<b>Priority</b>	1	2
<b>Reasons for selection</b>	<ul style="list-style-type: none"> <li>• Consolacion was selected as the preferred project site with excellent location conditions such as favorable expandability and no interference with other development plans in the future.</li> </ul>	

o **Master Plan for the New Port**

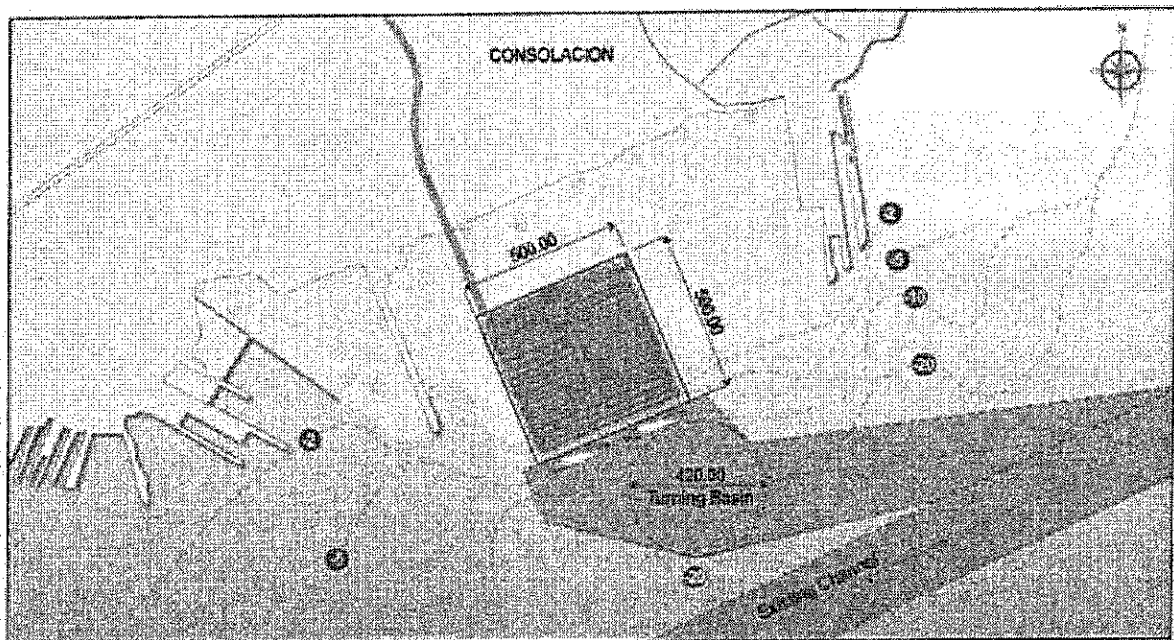
- Development Scale

- A vessel of 2,000TEU is determined as the main target vessel. However, considering the recent tendency towards larger vessels, the quay structure was planned with an enough stability in which 4,000 TEU (Panamax) can berth in the future.

Vessel	DWT	Length of Vessel	Full Draught	Remarks
2,000 TEU	30,000	203m	(-)11.2m	Phase I
4,000 TEC	50,000	274m	(-)12.7m	Future

- If two berths of 2,000 TEU are constructed and 4 quay cranes are operated, the annual cargo handling capacity will be 375,894TEUs. Therefore, the estimated cargo volume of 363,131 TEUs in the year of 2025 will be sufficiently managed.

- Port Facilities Plan



- The wharf was planned to be composed of two berths for 2,000TEU vessels and its total length is 500 meters. If the (-)14m depth is secured through a dredging in the future, a 4,000TEU vessel along with a 1,000TEU vessel can berth at the same time.
- The width of the navigation channel is planned at 240m with which the design vessels for the new port can cross sail at ordinary times. The stopping distance of a vessel is planned at 1,200m and the water depth along the channel is designed at (-) 12.00m.
- In consideration of the shape of a ship's turning needs, turning performance, arrangement of the access channel, the size of the turning basin is planned at 420m and the water depth at (-)12.00m.

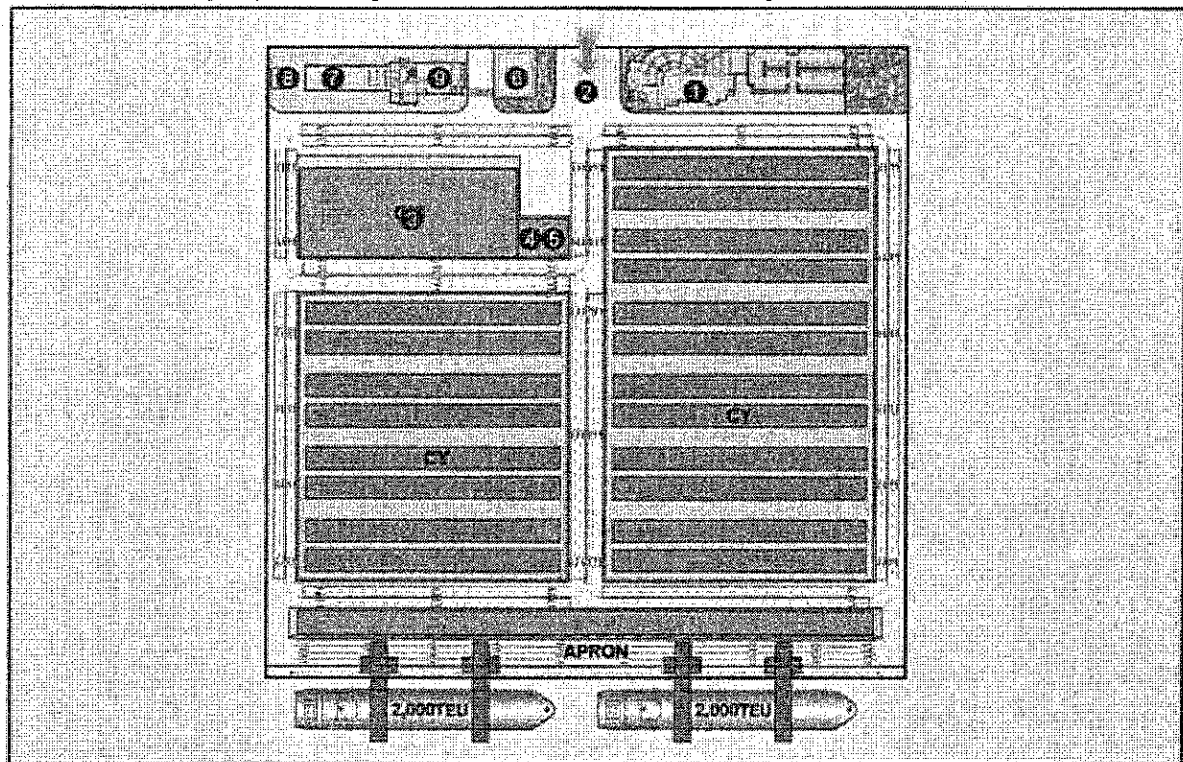
## Executive Summary

### - Layout for the Super-structural Facilities

- The area of the new port is planned at 25ha and the container yard can accommodate up to 14,400 TEU containers.

Area	Capacity	Stack Height
500m x 500m	3,600TGS	4

- The layout for the super-structural facilities of the new port is as shown below.



No	Facilities	No	Facilities
①	Operation Building	⑤	Substation
②	Gate Complex & Weigh Bridge	⑦	Maintenance & Repair Shop
③	Container Freight Station	⑧	Gas Station
④	Container Inspection Shed	⑨	Welfare B/D & Labor's Building
⑤	Customs Office	⑩	Quay Crane

- The management and support facilities such as operation building, gate, maintenance & repair shop, gas station, etc. were laid out in such a way that interference in the logistics flow is minimized and the operational efficiency is maximized.
- The container yard was planned to be divided into two zones in order to minimize the traveling distance of equipment and the CFS and CIS were laid out closely with each other so that containerizing works and customs procedures can be smoothly performed.

o **Port Operation Plan**

- General operation direction

- \* Port operation and management will be the responsibility of CPA in which CPA installs a separate PMO for the new port and directly performs cargo handling using the 4 quay cranes included in this project budget. Cargo transport and stacking would be handled by contracted shipping operators. This can be adjusted according to the circumstances of the implementing institutions and the Philippine government.
- \* The operation organization is to be adjusted during port operations in the future when needed. In this feasibility study, a maximum of approximately 88 people are assumed for the general manager, management department, equipment team, and cargo handling support team. The contracted shipping operator is to organize a separate team who will conduct transport and storage of containers.

- Port equipment operations and procurement plan

- \* It was planned that four (4) container cranes be purchased within the project budget and other required equipment (unloading and transport equipment) be input by the contracted shipping operators.

Category	Function	No.	Remark
Container Crane	Unloading and loading of containers on vessel	4	Included in the project budget
Transfer Crane	Loading containers in the Yard	16	Contracted operator may procure them by itself
Reach Stacker	Loading and transporting containers	2	
Empty Handler	Loading and transporting empty containers	1	
Fork Lift	Transporting containers and heavy items	2	
Yard Tractor	Transporting containers that are loaded in Chassia	18	
Yard Chassis	Container transporting equipment that are moved by tractor	36	

- \* Basically, the container crane will be used for container unloading and loading and the derrick can be utilized, when needed, to maximize the operational efficiency.
- \* Container transportation between apron and container yard is done by the chassis combination and a reach stacker can be used when necessary. Transfer crane is planned to be in charge for the container stacking in the container yard.

# Executive Summary

## Project Cost Estimation

### Construction Cost (Design-build project)

- Construction cost is divided into the detail design fee and direct construction cost. Direct construction cost was estimated through a process of planning the layout and structural sections, reflecting local conditions, and optimization of the structures.

(Unit: USD)

Items	EDCF		
	Foreign	Local	Total
1. Quay wall	18,445,902	9,563,759	28,009,661
2. Revetment	84,274	6,613,345	6,697,619
3. Dredging and Reclamation	2,013,341	14,905,494	16,918,835
4. Paving and Access Road	2,012,074	31,082,375	33,094,449
5. Utility Work	41,392	8,043,357	8,084,749
6. Building	186,134	4,856,649	5,042,783
7. Electronic Communication	9,232,580	188,420	9,421,000
<b>Total Amount</b>	<b>32,015,697</b>	<b>75,253,399</b>	<b>107,2269,096</b>
<b>EDCF Allocation</b>	<b>30%</b>	<b>70%</b>	<b>100%</b>

- The detail design fee is estimated on the basis of the lump-sum of actual costs and the detailed costs are as shown below.

Items		Detail Design	Unit Cost (USD/Month)	Total(1,000USD)		
				Foreign	Local	Total
Labor cost	Korean engineer	181M/M	3,806	689	-	689
	Local engineer	181M/M	1,646	-	298	298
Engineering fee and overhead expenses		150% of direct labor cost		1,033	447	1,480
Survey And test	Soil Survey	Boring test, field and lab test		-	126	126
Travel expenses		Korean engineers' traveling costs		48	-	48
Report		Print of reports and deliverables		35	10	45
Other expenses		Other expenses required for project implementation (20-40% of the direct labor cost applicable)		207	89	296
<b>Total</b>				<b>2,012</b>	<b>970</b>	<b>2,982</b>
<b>Ratio</b>				<b>66%</b>	<b>34%</b>	<b>100.0%</b>

**□ Consultant Cost**

- Personnel required for each stage (bidding assistance, and construction supervision stages) were estimated allowing for different grades, and the costs for surveys and tests, and other expenses were added.

Items		Design	Supervision	Sub-total	Unit cost (USD/Month)	Total (1,000USD)		
						Foreign	Local	Total
Labor cost	Korean engineer	12M/M	217M/M	229M/M	7,242	1,658	-	1,658
	Local engineer	6M/M	428M/M	434M/M	1,281	-	494	494
Engineering fee and overhead expenses		150% of direct labor cost				2,488	742	3,230
Survey And test	Survey	Topographic & bathymetric surveys				10	263	273
	Soil survey	Boring, field and lab. tests.				8	54	62
	Numerical modeling test	Design wave, seawater flow, etc.				80	-	80
Travel expenses		Korean engineers' travelling costs				53	-	53
Report		Print of reports and deliverables				5	7	12
Other expenses		Other expenses required for project implementation (30% of the direct labor cost applicable)				497	148	645
Total						4,799	1,708	6,507
Ratio						74%	26%	100%

**○ Price Contingency**

- For estimation of the price contingency, the average inflation rate of Korea and the Philippines quoted from the World Bank was applied and the inflation rate during the project implementation period was computed at compound interest.

Country	Project Implementation Period (5 years)				Average inflation rate
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	
Korea	1.60%	3.23%	4.88%	6.56%	4.07%
Philippines	3.43%	6.98%	10.65%	14.44%	8.88%

- For estimation of the inflation fluctuation, 50% of the rate change for the most recent 3 year Korean Won versus US dollar exchange rate was applied.

Items	2011	2012	2013	2014	Average	Application (50%)
Exchange rate	1,108.11	1,126.88	1,095.04	1,053.22	1,095.81	
Changed amount		18.77	31.84	41.82		
Fluctuation		1.69%	2.83%	3.82%	2.78%	1.39%

# Executive Summary

## □ Summary of Project Cost

(Unit: USD)

Items	EDCF			GOP	Grand Total
	Foreign	Local	Total		
<b>I. Consulting Service</b>	4,799,342	1,708,320	6,507,662		6,507,662
1. Bidding Assistance	269,074	345,880	614,954		614,954
2. Construction Supervision	4,530,268	1,362,440	5,892,708		5,892,708
<b>II. Construction</b>	34,027,310	76,223,799	110,251,109		110,251,109
1. Detail Design	2,011,613	970,400	2,982,013		2,982,013
2. Quaywall	18,445,902	9,563,759	28,009,661		28,009,661
3. Revetment	84,274	6,613,345	6,697,619		6,697,619
4. Dredging and reclamation	2,013,341	14,905,494	16,918,835		16,918,835
5. Paving and Access road	2,012,074	31,082,375	33,094,449		33,094,449
6. Utilities	41,392	8,043,357	8,084,749		8,084,749
7. Building	186,134	4,856,649	5,042,783		5,042,783
8. Electronic communication	9,232,580	188,420	9,421,000		9,421,000
Construction Price Allocation	29.85%	70.15%	100%		
<b>III. Operating Facilities</b>	40,520,000		40,520,000		40,520,000
<b>IV. Direct Project Price (I+II+III)</b>	79,346,652	77,932,119	157,278,771		157,278,771
Direct Project Price Allocation	50.45%	49.55%	100%		
<b>V. VAT &amp; Duties</b>				22,950,013	22,950,013
1. VAT (12% of IV)				18,873,453	18,873,453
2. Duties (6% of Foreign material)				4,076,560	4,076,560
<b>VI. Contingency</b>	7,358,212	12,300,416	19,658,628		19,658,628
1. Physical Contingency (5% of IV)	3,967,333	3,896,606	7,863,939		7,863,939
2. Price Contingency	3,390,879	8,403,810	11,794,689		11,794,689
<b>VII. Project Management (2% of IV)</b>				1,572,788	1,572,788
<b>VIII. Land Acquisition &amp; Compensation</b>				2,865,458	2,865,458
<b>IX. Service Charge (0.1% of EDCF Portion)</b>	177,114		177,114		177,114
<b>XI. Total (III+IV+V+VI+VII+VIII)</b>	86,881,978	90,232,535	177,114,513	27,388,259	204,502,772
EDCF Allocation	49.05%	51.95%	100%		
Total Allocation	42.48%	44.12%	86.61%	13.39%	100%

Note) GOP: Government of Philippine



**Economic and Financial Feasibility Review**

o **Basic assumption**

Category	Period
Base Year	• 2014
Construction period	• 2016 – 2019
Operation period	• From the second half of 2019
Economic Feasibility Period	• 30 years from the operation period (Until 2048)
Social Discount Rate	• 15% (NEDA's standard)
Financial Discount Rate <sup>2</sup>	• 5%

o **Evaluation of Income and Benefits**

– Profit and Cost Items for Financial Analysis

- For the profit items, charges on vessel, wharfage, charges on cargoes, charges on storage, and arrastre were identified based on CPA's tariffs. Costs are composed of the total project cost and operation cost.

Profit Items	Cost Items	
Charges on vessel	Total project cost	
Wharfage	Operation cost	Labor cost
Charges on cargoes		General expenses
Charges on storage		Maintenance cost
Arrastre		Financing cost

– Financial Feasibility Analysis for each Scenario

- Financing for this project was distinguished by a PPP project and a government finance project.
- Two scenarios were assumed for the case of a PPP project where the scenarios are distinguished depending on the funding ratio between GOP and private capital.

PPP Project		Budgetary Project
Scenario A	Scenario B	
<ul style="list-style-type: none"> <li>• GOP 30%</li> <li>• Private capital 70%                             <ul style="list-style-type: none"> <li>- Equity capital (30%)</li> <li>- Commercial loan (70%)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• GOP 50%</li> <li>• Private capital 50%                             <ul style="list-style-type: none"> <li>- Equity capital (30%)</li> <li>- Commercial loan (70%)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• GOP (13%)</li> <li>• EDCF (87%)</li> </ul>

<sup>2</sup> Financial discount rate refers to the rate applicable to calculate the present value of the future cash flow expected from the project; i.e. the rate used for converting the constant price into the current price.

## Executive Summary

### - Benefit Items for Economic Feasibility Analysis

- For an analysis of the economic feasibility the 6 benefit items were selected based on the "Appraisal of Port Investment (1977), a study by UNCTAD on the economic feasibility evaluation of a port investment project, distinguishes the benefits of port investment as the benefits to port operators, port users and port related industries, and "Standard Guild Line for Feasibility Study of Port Project(2001)".

Benefit Items	
• Benefits from savings in vessel waiting cost (11,339,000USD)	• Benefits from savings in maritime transport time value (3,507,000USD)
• Benefits from savings in vessel stay cost (266,198,000USD)	• Benefits from savings in traffic congestion cost (7,146,000USD)
• Benefits from savings in maritime cargo transport cost (1,999,000USD)	• Benefits from increase in land lease income (1,509,000USD)

### o **Financial Feasibility**

- As a result of the financial analysis for the new port in Consolacion, it was found that the project is not financially feasible since PI is below 1.

Items		Constant	Current
Scenario A	FIRR(%)	-	9.02%
	PI	0.328	0.709
	FNPV (1,000 USD)	-143,254	-58,201
Scenario B	FIRR(%)	-	9.78%
	PI	0.355	0.746
	FNPV (1,000 USD)	-127,863	-48,372
Government finance project	FIRR(%)	4.14%	11.89%
	PI	0.447	0.862
	FNPV (1,000 USD)	-88,216	-22,713

### o **Economic Feasibility**

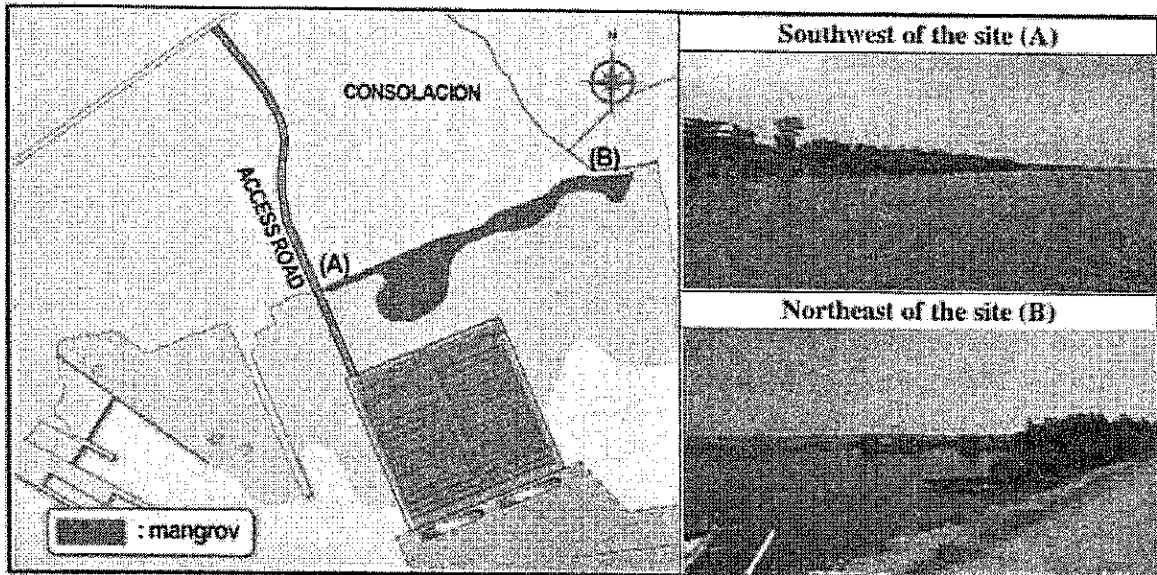
- As a result of the economic feasibility analysis on the project with the application of a social discount rate of 15%, the IRR is 19.04%, thus it is estimated that this project is feasible from an economic aspect.

Items	15% Social Discount Rate applied
IRR(%)	19.04%
B/C ratio	1.28
NPV(1,000USD)	34,383

□ **Environmental and Social Impacts**

○ **Environmental Impact**

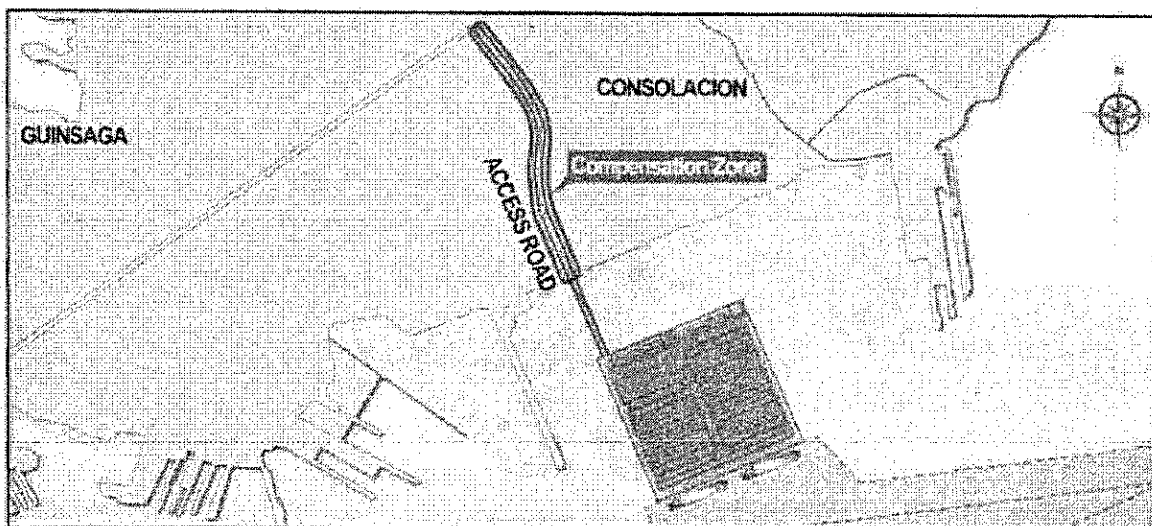
- Since the new port will be located in an offshore area separated from the shore, there would be little impact on animals and plants. However, a special attention needs to be paid during construction as mangrove is distributed along the shoreline in Consolacion.



- The land area to be created through reclamation is approx. 25ha which requires EIS in accordance with the Philippines' environmental standard; reclamation area of over 15.0ha is subject to EIS)

○ **Social Impact**

- Since the port site in Consolacion is planned in the form of an island at an offshore location from the shoreline, resident's resettlement is not an issue.
- However, the access road is planned to pass through private houses and religious facilities, so the direct/indirect impacts to these areas should be compensated as well.



## Executive Summary

### Conclusion

- The new port is planned to have two berths for 2,000TEU vessels, based on the cargo volume prediction; 332,321 TEUs in 2020 and 363,131 TEUS in 2025.
- The new port site, 500m x 500m, will be prepared in the offshore area of Consolacion through land reclamation and the water depth of (-)12.00m will be secured for the initial stage. The quay structure, however, will ensure the enough stability to accommodate 4,000TEU vessels once dredging is carried out down to (-)14.00m in the future. The new port will be connected to the land by an offshore bridge.
- The project cost for New Cebu Port is USD 204,503,000 of which USD 177,115,000 will be provided by EDCF and USD 27,388,000 will be financed by the government of Philippines.
- As results of the economic feasibility analysis, the project was found to be economically feasible with the B/C ratio of 1.28, IRR of 19.04%, and NPV of USD 34,383,000.
- The suggested priority site for the new port is Consolacion where a stable project promotion is possible without future interference with other development projects expected and expansion of the port is favorable.
- It is recommended to expand the existing road to be linked to the access road to the new port as the traffic on the road will go up due to the increased cargo transport.
- The stable logistics conditions created by the supply of expanded and advanced port infrastructure in Cebu will be able to boost the local economy.