PROJECT DESCRIPTION

LAPU-LAPU RECLAMATION AND DEVELOPMENT PROJECT (SITE 2)

Proponent: **CITY OF LAPU-LAPU**
Province of Cebu
Joint Venture agreement with
Mactan Bluewaters
Development Corporation (MBDC)

BACKGROUND

BASIC PROJECT INFORMATION

The Project is a 100-hectare reclamation project situated in Barangay Punta Engaño, City of Lapu-Lapu, Province of Cebu. The Project is a Joint Venture Agreement Project with developer Mactan Bluewaters Development Corporation (MBDC).

Under the Agreement, the land filling and reclamation works will be at no cost to the government. MBDC only seeks to recover its investment by way of its share in the reclaimed land. Part of the reclaimed land will be allocated to the government, which will be divided between the City and the Philippine Reclamation Authority ("PRA").

The ECC application is for horizontal land development only.

PROJECT FACT SHEET

Project Proponent	**CITY OF LAPU-LAPU**
Office Address	Lapulapu City Hall Access Rd, Lapu-Lapu City, Cebu
ECC Signatory	**HON. JUNARD CHAN** **Mayor**
Contact Person & Details	**Atty. Misaellee Tejano** Secretary to the Mayor Mobile no. 0917 634 1081
Authorized Representative for ECC Application	**TET A. TOBES** TOBES ENVIRONMENTAL CONSULTING (TEC) Z3-266 Brgy. San Isidro, San Isidro, Talisay City, Cebu/No. 73 Paseo Panteleon, Ma. Luisa Estate Park, Banilad, Cebu City Mobile nos.: 0995 103 2159; 0942 978 0876 Email address: tettobestec@gmail.com; tettobesecc@gmail.com
Project Name	**LAPU-LAPU RECLAMATION AND DEVELOPMENT PROJECT (SITE 2)**
Project Location	Barangay Punta Engaño, Lapu-Lapu City, Province of Cebu
Project Type	Reclamation
Project Area	100 hectares
Project Coordinates	10° 19' 12.4" and 10° 19' 58.7" north latitude and 124° 01' 02.6" and 124° 01' 51.5" east longitude.
Project Components	Residential condominium development – 40.03 ha. Business, commercial and industrial development – 22.50 ha. Hotel and tourism development – 8.17 ha. Park and port development – 12.55 ha

	Road and trail-base greenway buffer area – 4.68 ha. Roadways and circulation – 12.97 ha **TOTAL PROJECT AREA: 100 hectares** Note: detailed site development plan in process. To be presented during Public Scoping
ECC Application	New

PROJECT DESCRIPTION

Project Area and Location

The LAPU-LAPU RECLAMATION AND DEVELOPMENT PROJECT (SITE 2) covers a total area of 100 hectares. The Project is located in Barangay Punta Engaño, Lapu-Lapu City, Province of Cebu. Barangay Punta Engaño has a population of 8,753 with reference to the 2015 Census of Population: National Statistics Office (NSO).

The 100-hectare reclamation project is located north of the City, along the foreshore areas of Magellan Bay in Punta Engaño. The area is located along the north entrance of Mactan Channel and west part of Engaño point. The Project is located northeast of another proposed reclamation, the 400-hectare Mactan North Reclamation and Development Project.

The project area is located in the northeast portion of Mactan Island, in the western section of Punta Engaño Peninsula and within the foreshore of Magellan Bay (Figures 3-4). It is within the political jurisdiction of Barangay Punta Engaño, Lapu-Lapu City, Province of Cebu. It is located northeast of another proposed reclamation, the 400-hectare Mactan North Reclamation and Development Project. The 100.0-hectares reclamation project is bounded within the following geographical coordinates: 10° 19' 12.4" and 10° 19' 58.7" north latitude and 124° 01' 02.6" and 124° 01' 51.5" east longitude. The project area is approximately 8.5 aerial kilometers northeast of Lapulapu City proper or about 5.2 aerial kilometers northeast of Mactan International Airport.

Figure 9.4: Project Vicinity Map

Project Master Plan

The focus of the development planning for the 100-hectare Punta Engaño site centers on the establishment of a mixed-use walkable site complex to serve as an alternative site for business, commerce, industry, tourism, residence, recreation and entertainment in the City. The master plan offers a blend of essential public amenities, ample open spaces, functional and aesthetically appealing urban design creating active City environment at various scales.

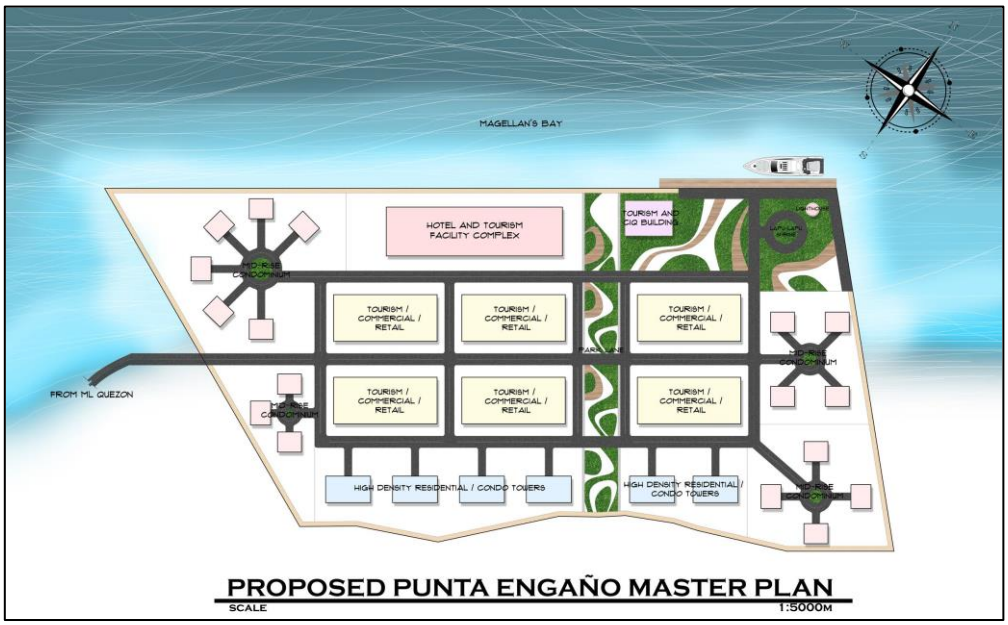


Figure 9.5: Punta Engaño Conceptual Master Development Plan

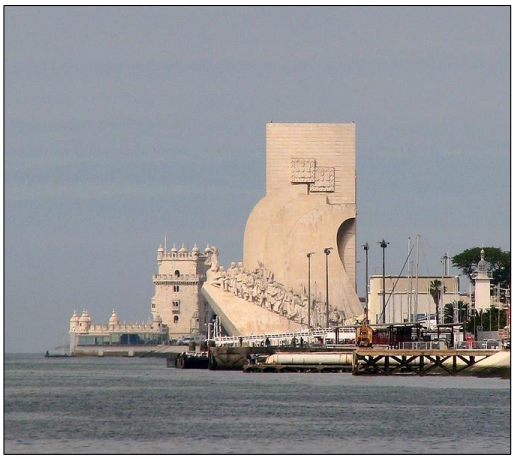
Business is marked as one of the two major functions of Punta Engaño with around 20% of the land area allotted for the creation of industrial parks (BPOs, call centers, professional, technical services). This would open up opportunities for business, retail, commerce, and employment growth in the City.

Residential communities will be the focal feature of this planned development – it would cater to a wide range of patrons for its high-rise condominium complexes and mid-rise clusters. These are complemented by the mix of shopping, groceries, department stores and dining outlets either provided in the business and commercial areas or integrated in the condominium podium.

A park lane is at the heart of the Punta Engaño's development linking all the open spaces, roads, parks and greenways. These networks of parks are designed to provide a pleasurable experience for the community as it connects to the site various activity clusters.

The Park and Port Facility which are integral and dominant elements of the master plan will provide a tourist attraction as they will feature a modern-day creative, visual interpretation of "*Datu Lapu-Lapu's Monument"*, complemented by a lighthouse, park and tourism facility patterned after the "Torre de Belem" in Portugal that was built to commemorate Vasco da Gama's expedition to the Far East.

The “monument and lighthouse” is a testament to the Cebuano’s fight for freedom and will be constructed as part of the 500 years commemoration of the “Kadaugan Sa Mactan”. For practical purposes, the monument of Datu Lapu-Lapu will be serving as a navigational aid for ships entering and leaving Mactan Channel, ensuring safety to life and property at sea.

Source: www.bayaniart.com/ www.fineartamerica.com

Figure 9.6: Datu Lapu-Lapu Monument and Lighthouse

The hotel and tourism complex fronting Magellan Bay which is adjacent to the park and cruise ships port facility will feature low-rise establishments offering an array of commercial activities for tourists’ accommodations, special services, and personal comforts, convenience and living essentials.

Punta Engaño plan has road features that are wide enough to offer user-friendly, safe, and easy car and pedestrian lanes. The main street loop which is the project’s arterial road will redefine the identity of the development within the City context providing design components composed of building forms, streetscapes, parking and traffic. The 100-hectare Punta Engaño reclamation project will showcase the following mixed-use development plan components:

***Table 9.2**: Proposed Land Use Allocation for the 100-hectare Punta Engaño*

Land Uses	Area (hectares)	Percent
Residential Condominium Development	40.03	39.67
Business, Commercial and Industry Development	22.50	22.30
Hotel and Tourism Development	8.17	8.10
Park and Port Development	12.55	12.44
Road and trail-base greenway buffer Area	4.68	4.64
Roadways and circulation	12.97	12.85
TOTAL	**100.90**	**100.00**

1. Residential Condominium Development

This development component is located in the peripheries of the reclamation project and naturally surrounds the whole area creating clusters of residential communities with well-designed landscape. Taking advantage of its prime location on the coast of Magellan's Bay, these residential clusters of high and medium condominium have the most density in the project.

High and medium-rise towers reach a maximum height elevation of 54.00 meters and 36.00 meters with 18 and 12 floors respectively, due to CAAP imposed restriction since the project is within the vicinity of the MCIA runway approach. These residential spaces will cater to a full range of market needs – from luxury suites, starter units for young couples, to cost-effective condo units. These types of condominium buildings take its inspiration from the masterplanned tourist and resort development in Pattaya, Thailand.

This development in the reclamation project takes up 40.03 hectares or a total of 39.67 % of the area – which is the primary land use allocation. The amenities and features within this development component are:

- High and medium rise condominium buildings (not to exceed 22 levels)
- Landscaped clusters and parking

Figure 9.7: High Rise Condominium Buildings

2. Business, Commercial and Industry Development

Centrally located in the master plan, this component offers diverse business, commerce and industry opportunities in support to the residential, recreation and tourism activities within the complex. This area will provide full access to economic and employment opportunities and will offer a range of shops, restaurants and a variety of businesses and offices.

This development in the reclamation project takes up 22.50 hectares or a total of 22.30 % of the area. The amenities and features in this development component are:

- Shopping malls with office spaces
- Business and Corporate Towers (low-midrise)
- Landscaped parks

3. Hotel and Tourism Development

A well-matched development proposal for the Punta Engaño reclamation project is the provision of hotel and tourism facilities, consistent with the general land use and zoning of the area. This will feature tourist accommodation and related tourism activities such as convention and meeting venues, specialty, novelty and souvenir shops; bars and restaurants catering to international and local cuisines, and a host of personal services which can deliver high-value tourism revenue for the City.

This feature in the reclamation project takes up 8.17 hectares or a total of 8.10% of the area. The amenities and features within the hotel and tourism development area are the following:

- Hotel with meeting and convention function
- Specialty shops and restaurants
- Entertainment facilities and services

4. Park and Cruise Ship Port Facility Development

This component is at the center of the development and will be a dominant feature of the project. This aspect of the whole development concept features an 80-meter wide *Park Lane* traversing the *Main Street Loop* and links the Port Facility, Hotel and tourism area, business and industry and some residential complexes.

The Park Lane shall be a showcase of different park designs and elements to complement the numerous varied retail businesses and shops lined up on both sides of the park lane.

The Cruise Ship's Port Facility on the other hand will house the tourism and *Customs, Immigration and Quarantine* (CIQ) building to serve the needs for the operation and management of the port and arriving tourist. Its dominant feature is a light house and the modernized rendition of *Lapu-Lapu's Monument* set in a park-like port facility. This feature will be a distinguishing marker for both land and sea navigation along Magellan Bay.

These reclamation project features take up 12.55 hectares or a total of 12.44% of the area. The amenities and features within the Park and Port Facility are as follows:

- 80-meter wide Park Lane with an array of low-rise shops and businesses
- Modernized version of Datu Lapu-Lapu Monument
- Tourism and CIQ Building Facility (institutional)
- Light House
- Cruise ship port facility (Wharf)

5. Roadways and Circulation/Road and Trail-Based Greenway Buffer

The roadways and circulation network of the master plan are designed to efficiently and optimally distribute the users around the development in the most convenient and safe manner. The network divides the site into its major components: *Residential Condominium Complexes*, *Business, Commercial and Industry Centers*, *Hotel and Tourism Areas*, and *the Park and Port Facility Complex*. The network is designed to achieve a certain degree of zoning for the major development components.

Each of the rotundas to the high-to-medium rise residential complexes and into the *Lapu-Lapu Monument* and the *Lighthouse* are designed to introduce and identify the development component and establish individual character and ambience. Proposed road rights-of-way range from 12, 20, and 24 meters.

The 24-meter wide *Main Street Loop* features a four-lane minor arterial that runs through all the development components and contains most of the plan's commercial, residential and tourism uses. On this main street, the design elements guide for building form, streetscapes, parking, traffic and pedestrians, this will be strictly observed. Likewise, the road and trail-based greenway buffer is a special open space and circulation feature of the master plan as it embraces the whole reclamation complex with trail ways and roads serving as buffers and greenways to all the different component boundaries.

The amenities and features of this component are as follows:

- 24.00 meter main street loop
- 12.00 meter road and trail-based greenway buffer

The Roadways and Circulation/*Road and Trail-Based Greenway* Buffer take up approximately 17.65 hectares of the reclamation project comprising 17.49% of the total development.

PROJECT RATIONALE

As the economy and urban population of the City of Lapu-Lapu continue to grow, further land expansion and development have become a necessity.

The City's population density now stands at approximately 7,000 people per square kilometer. As of 2016, more than 12,000 commercial and industrial establishments – including 80 registered and accredited hotels, factories in Mactan Economic Zone (MEZ) I and II, the Cebu Light Industrial Park ("CLIP"), malls, and so many others – crowd the limited usable territory of the City.

In terms of land area, the 6,424.6-hectare City is larger than Mandaue City, but smaller than Cebu City. However, about 17% of its total land area or about 1,095 hectares, is devoted for public use. The City is home to the 797-hectare Mactan-Cebu International Airport ("MCIA"), the 154-hectare Mactan-Benito Ebuen Air Base of the Philippine Air Force, and the 144-hectare Naval Base – Mactan of the Philippine Navy. Among the local governments in Cebu, the City has the largest area devoted to public utilities and institutions, making further commercial, industrial, and residential expansion a serious challenge.

The Project, situated in Barangay Punta Engaño along Magellan Bay, is expected to address this development challenge. The Proposed will be fully master-planned and eco-centered, catering to mixed commercial, industrial and residential needs in support of the City's vision of being the premier tourist destination and economic hub in Central Philippines.

The Proponent entered into a Joint Venture Agreement with Mactan Bluewaters Development Corporation (MBDC) for this Project. Under the Agreement, the land filling and reclamation works will be at no cost to the government. MBDC only seeks to recover its investment by way of its share in the reclaimed land. Part of the reclaimed land will be allocated to the government, which will be divided between the City and the Philippine Reclamation Authority ("PRA").

The City will earn revenues from the sale or lease of its share in the reclaimed land. The City will also be able to collect additional property and business taxes derived from the reclaimed land. From these additional sources of revenue, the City will be able to fund other infrastructure projects, environmental protection programs, and social services such as education, livelihood training, housing, healthcare, in accordance with the City's mandate and priorities.

Equally important, the creation of new commercial, industrial and residential establishments in the reclaimed land will generate thousands of new jobs for the residents of the City and surrounding areas.

Project Cost

The estimated total investment cost including attendant expenses is estimated at PhP 7.603 Billion (NPV), based on an assumption that the average depth of marine fill and backfilling is at 6-meter depth.

The cost of filling materials, whether sourced from the identified PRA burrow sites in Northern Cebu or the various diorite quarry sites in Negros, Leyte or Bohol is based on the highest price, estimated at PhP 3,000 per cubic meter if coming from Southern Leyte due to distance, transport and extraction cost and quarry related permitting.

It is expected however that the total project cost will have slight adjustment upon determination of the final cost of filling materials and the result of the geo-technical survey. This project cost estimates only consists of the cost of reclamation and site development works only and does not include buildings and other urban amenities necessary for the day-to-day operation of the masterplanned mixed use community.

***Table 2.2**: Estimated Project Cost*

N	Component	Indicative Cost
A	**Preparatory Works**	
1	Preparation of Detailed Engineering Designs and Other Technical Plans	108,501,604.52
2	Permitting and Documentations	72,334,403.01
B	**Site Development**	
1	Reclamation works	3,616,720,150.68
2	Roads, Bridges and Drainage	1,085,016,045.20
3	Sewerage/STP	268,500,000.00
4	Power supply and Telecommunications	1,185,500,000.00
C	**Contingency**	1,267,314,440.68
Total		**7,603,886,644.10**

Note:

1. *From NAMRIA Harbor Chart 4447 (Cebu Harbor and Approaches), the depth of water along the proposed area for reclamation varies from 1-meter to 10-meter depth and the assumed average fill is at 6 meters.*
2. *The total (estimate) volume of filling materials shall be determined only after the conduct of soil and boring test, since mud and organic silt will be removed.*

3. *Estimated cost of filling materials were computed at PhP 3,000/cubic meter*
4. *Other cost are based on industry practice estimates*

Project Components List
The site development plan is being finalized as of writing.

Table 9.2: Proposed Land Use Allocation for the 100-hectare Punta Engaño

Land Uses	Area (hectares)	Percent
Residential Condominium Development	40.03	39.67
Business, Commercial and Industry Development	22.50	22.30
Hotel and Tourism Development	8.17	8.10
Park and Port Development	12.55	12.44
Road and trail-base greenway buffer Area	4.68	4.64
Roadways and circulation	12.97	12.85
TOTAL	**100.90**	**100.00**

After reclamation works are completed, some 2,030,000 square meters of additional buildable/developable space is added into the city's land inventory. This could be roughly translated into about 1,421,000 square meters of building gross floor area (GFA), based on the existing 70% buildable vis-à-vis to 30% open space/public area ratio. An estimated additional 6-kilometer of city roads will also be constructed within the reclaimed land to help decongest traffic within the City.

The additional 1,421,000 square meters of building GFA can be allocated for tourism, office, residential, commercial, and light to heavy industrial mixed uses in a master-planned community. Since the proposed area is located within the vicinity of the current MEPZ 1, MEPZ 2, and the CLIP, it can be made as an extension of the existing industrial estates or can be made master-planned as separate economic zones with residential and commercial components for higher yield.

Specifically, the site in Punta Engaño can be developed into a master-planned mix of tourist, commercial and residential developments, including potential industrial estates.

Capitalizing on the natural depth of water and strategic location, a portion of the 100-hectare Punta Engaño reclaimed area can potentially accommodate ship-building and ship repair facilities, considering that the area is located just across the various shipyards across the north entrance of the Mactan Channel in Consolacion and Liloan towns.

Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures

Table 1: Project Phases, Key Processes, Environmental Activities and Measures

PROJECT PHASE	KEY PROCESSES	KEY ENV. ASPECTS	NATURE OF EMISSION/ EFFLUENTS	MITIGATING MEASURES
Pre-construction	• Conventional earthworks e.g. access roads construction, removal of overburden	• Dust generation • Noise generation • Siltation on waterways	• Air quality impact; fugitive dust • Noise quality impact; nuisance • Water quality impact; TSS	• Covering trucks, wetting storage piles and haul road with water or dust suppressants • Temporarily closing the area • Limiting size of disturbed area • Dust masks for workers and personnel • Provide hearing protection for workers and personnel • Regulation of working hour time to avoid disturbance to adjacent residential houses • Installation of siltpond
Construction	• Excavation of main foundation areas for consolidating and backfilling • Piling or appropriate foundation methodology	• TSP, SOx, NOx, CO generation • Noise generation • Siltation • Domestic wastewater generation	• Air quality impact; fugitive dust, smoke emission from vehicles and heavy equipment • Noise quality impact • Water quality; TSS, BOD, E.coli	• Pre-start up and test operation to cover inspection of and check-up of all major equipment including control logic

PROJECT PHASE	KEY PROCESSES	KEY ENV. ASPECTS	NATURE OF EMISSION/ EFFLUENTS	MITIGATING MEASURES
	• Forming and pouring of the foundations for equipment and construction of the main and approach decks • Piping • Finishing work	• Solid waste generation • Hazardous waste generation	• Solid waste such as food leftover, used construction materials • Used oil	• Temporary equipment e.g. containers, mobile equipment shall be removed from site post completion of roads, landscaping, site lighting • Dust masks for workers and personnel • Regular spraying of the dust prone areas • Installation of bufferzone • Provide hearing protection for workers and personnel • Regulation of working hour time to avoid disturbance to adjacent residential houses • Installation of siltpond and portable toilets for construction workers • Provision of designated garbage receptacles and storage area for used construction materials that are still recyclable to be sold for third party recyclers

PROJECT PHASE	KEY PROCESSES	KEY ENV. ASPECTS	NATURE OF EMISSION/ EFFLUENTS	MITIGATING MEASURES
				• Properly seal used oil in a closed container to be sold to accredited third party treater
Operational		• Dust generation • Wastewater generation • Solid waste generation • Hazardous waste generation	• Air quality; TSP • Water quality; BOD, TSS, pH, E.coli • Solid waste • Busted lamps, inks	• Regular water spraying of the dust prone areas • Installation of efficient centralized wastewater treatment facility • Establish material recovery facility area • Designate proper storage area for hazardous waste
Abandonment		• Dust/TSP, SOx, NOx, CO generation • Solid waste generation • Hazardous waste generation	• Air quality impact; fugitive dust, smoke emission from vehicles and heavy equipment • Solid waste such as used building materials • Used oil and busted lamps	• Regular water spraying of the dust prone areas • Check maintenance of the heavy equipment used in demolition and dismantling activities • Collection of the third party recyclers for used recyclable materials and collection of LGU for the residual wastes • Collection of the third party treater for the hazardous waste materials • Complete land rehabilitation

Direct and Indirect Impact Areas

In accordance with Annex 2-2 of the Revised Procedural Manual (RPM), Sec. 3.a, the Direct Impact Area is defined as "the area where ALL project facilities are proposed to be constructed/situated and where all perations are proposed to be undertaken". Indirect impact areas are areas located immediately outside the coverage of the project facilities and operations.

Table 2: Impact Areas of the Proposed Project

Area Classification	Area Coverage
Direct or Primary Impact Areas	**Biophysical Impact:** • The property where the proposed project components will be built **Socio-cultural Impact:** • Brgy. Punta Engaño being the host community
Indirect or Secondary Impact Areas	**Biophysical Impact:** • Immediate vicinity of the proposed project included within the 0.5-1.0 kilometer radial zone **Socio-cultural Impact:** • Areas other than the primary beneficiary of the Social Development Plan (SDP) that will benefit at the municipal, provincial, regional levels from potential revenues and taxes of the proposed project • Immediate vicinity of the proposed project included within the 0.5-1.0 kilometer radial zone

The impact areas are specific to the Project. However, the activities of other projects in the vicinity may contribute also to the cumulative environmental impacts of the expansion project. The impacts of the additional expansion project will be more clearly defined during the conduct of the environmental impact assessment.