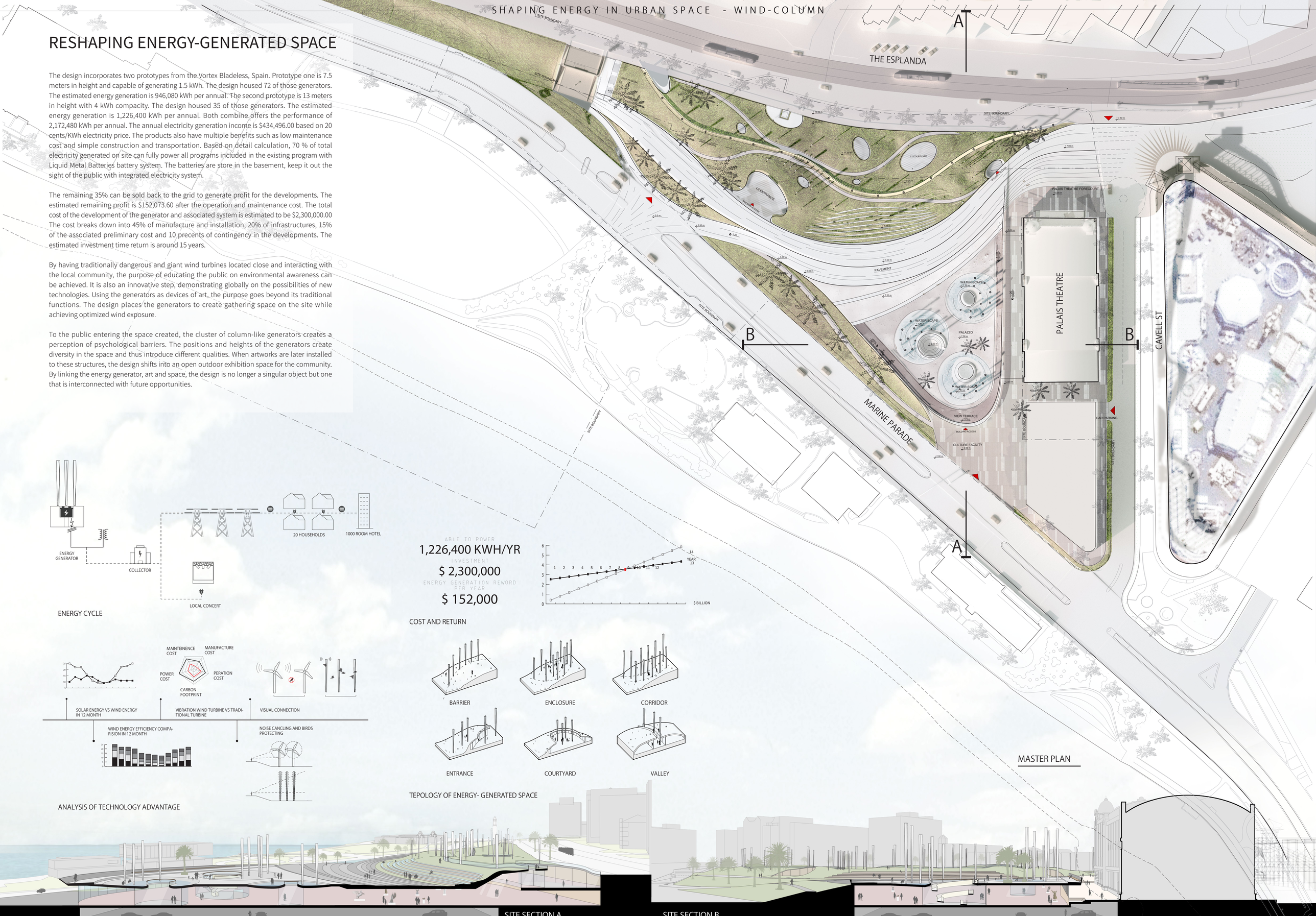
RESHAPING ENERGY-GENERATED SPACE

The design incorporates two prototypes from the Vortex Bladeless, Spain. Prototype one is 7.5 meters in height and capable of generating 1.5 kWh. The design housed 72 of those generators. The estimated energy generation is 946,080 kWh per annual. The second prototype is 13 meters in height with 4 kWh compacity. The design housed 35 of those generators. The estimated energy generation is 1,226,400 kWh per annual. Both combine offers the performance of 2,172,480 kWh per annual. The annual electricity generation income is $434,496.00 based on 20 cents/KWh electricity price. The products also have multiple benefits such as low maintenance cost and simple construction and transportation. Based on detail calculation, 70 % of total electricity generated on site can fully power all programs included in the existing program with Liquid Metal Batteries battery system. The batteries are store in the basement, keep it out the sight of the public with integrated electricity system.

The remaining 35% can be sold back to the grid to generate profit for the developments. The estimated remaining profit is $152,073.60 after the operation and maintenance cost. The total cost of the development of the generator and associated system is estimated to be $2,300,000.00 The cost breaks down into 45% of manufacture and installation, 20% of infrastructures, 15% of the associated preliminary cost and 10 precents of contingency in the developments. The estimated investment time return is around 15 years.

By having traditionally dangerous and giant wind turbines located close and interacting with the local community, the purpose of educating the public on environmental awareness can be achieved. It is also an innovative step, demonstrating globally on the possibilities of new technologies. Using the generators as devices of art, the purpose goes beyond its traditional functions. The design places the generators to create gathering space on the site while achieving optimized wind exposure.

To the public entering the space created, the cluster of column-like generators creates a perception of psychological barriers. The positions and heights of the generators create diversity in the space and thus introduce different qualities. When artworks are later installed to these structures, the design shifts into an open outdoor exhibition space for the community. By linking the energy generator, art and space, the design is no longer a singular object but one that is interconnected with future opportunities.



MASTER PLAN

ENERGY CYCLE

ABLE TO POWER
1,226,400 KWH/YR
INVESTMENT
$ 2,300,000
ENERGY GENERATION REWORD PER YEAR
$ 152,000

COST AND RETURN

ANALYSIS OF TECHNOLOGY ADVANTAGE

TEPOLOGY OF ENERGY- GENERATED SPACE

SITE SECTION A

SITE SECTION B