Application of Green Architecture in Tourist Park in Pasuruan City as a Recreation and Education

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Abstract. *The design of the Tourist Park in Pasuruan as a recreational and educational facility aims to create a tourist attraction for entertainment as well as providing education or knowledge for visitors from children to adults. Several facilities are presented, including a flower garden, play zones such as indoor and outdoor playgrounds and there is an education zone that supports culture-based learning such as displaying various 2D and 3D examples of various batik motifs typical of Pasuruan and other regions as well as providing a place to learn about making them. In addition, the design of this tourism park also considers aspects of comfort and accessibility by providing pedestrian paths that are friendly to all ages, fairly large green spaces, and recreational facilities such as indoor and outdoor children's play areas, water play, and culinary centers based on local products. The application of green architectural principles and sustainable use of resources is the main focus in designing this park, so that it can support environmental conservation while increasing the tourist attraction of Pasuruan. Through an innovative and education-based design approach, this tourism park is expected to become a leading tourism icon in Pasuruan that not only attracts tourists, but also provides social, economic, and environmental benefits for the local community. In this way, this park can become a model for sustainable tourism development that supports the growth of the tourism and education sectors in Indonesia.*

Keywords: Tourist Park Design, Recreation, Education, Sustainable, Pasuruan

1. Introduction

The country of Indonesia is a country with an archipelagic form that has very beautiful diversity, thus creating various tourist destinations. Starting from natural tourism, artificial tourism to cultural tourism, it is all found in Indonesia. All regions have the potential for tourism that can make Indonesia rich in culture, diversity and interesting tourism. The development of increasingly competitive tourism activities and the increasing number of promotions carried out by various countries to attract tourists to visit tourist attractions, require tourist attraction managers to always try to meet the needs and desires of visitors. Without attention and effort from developers and managers, of course, the tourist attractions will be increasingly abandoned or deserted by visitors.

Pasuruan City is located in the middle of the district. Pasuruan City, stretches between 112 ° 45 '- 112 ° 55 'East Longitude and 7 ° 35 '- 7 ° 45 'South Latitude. In the north it is bordered by Pasuruan City, Madura Strait and Sidoarjo Regency, in the south it is bordered by Malang Regency, in the west it borders Mojokerto Regency and Batu City, next to Pasuruan City is a lowland with an average height of 4 meters above sea level and its topography is very gentle with a slope of 0 - 1% from south to north. Pasuruan City falls into the tropical climate category which tends to be rather dry with an average air temperature ranging between 25°–31 °C per year. The reason for placing the tourist park in Pasuruan is that it does not have an attractive entertainment venue with fairly complete facilities. It is hoped that the designed tourist park can become a center for tourism activities that are not only useful for recreation but also educate about local culture and improve the welfare of the local community through a sustainable tourism sector. Through this planning it is also expected to improve the image of Pasuruan City as one of the leading destinations in East Java and be able to attract more visitors and have a positive impact on the regional economy.

2. Theory Review

Green Architecture is architecture that has attention to its natural environment and the ecological effects it causes, ecology as its main interest, and uses efficiency in buildings by using natural energy as much as possible architecture in order to better appreciate its environment. Green Architecture designs with an ecological approach, using natural plants to cope with the situation, using technology that is not harmful to humans and the environment. The materials used are harmless and friendly to nature and humans, prioritizing the appearance of buildings filled with plants (Rukayah, 2003). Green architecture (green architecture) or green building (green building) is often also known as sustainable architecture (sustainable architecture) or in a broader scope called ecological architecture (ecological architecture). In the book. Ecological Architecture, there are three things as a determinant of the success of green

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architecture, namely: (1) growing respect for local wisdom: (2) the importance of technology utilization, and (3) consideration of the future of the city (Yoga dkk, 2022). Sustainable architecture, also known as Green Architecture, is an approach to designing and constructing buildings that strives to achieve efficiency in energy use, space utilization, and overall ecosystem preservation. The basse concept of sustainable architecture is the application of a conscious approach to energy conservation and ecological sustainability in the entire process of designing and constructing buildings (Pranata dan Zuhni, 2020). Sustainable architecture not only aims to create ecological designs, but also embraces the concept of emmamentally friendly architecture and sustainable development. The main goal of Green Architecture is to create scological design, environmentally friendly architecture, and sustainable development. (Sudarman dkk, 2021).

A. The principles of Green Architecture, namely:
   - Conserving Energy
   - Working with Climate
   - Minimizing new Resources
   - Respect for User
   - Respect for Site
   - Holism [5]

B. Characteristics of Green Architecture, namely:
   - Desain Ekologis dan Ramah Lingkungan
   - Pemanfaatan Sumber Energi Alami
   - Pemilihan bahan bangunan berwawasan lingkungan
   - Sistem ventilasi dan pencahayaan
   - Pendekatan berkelanjutan [6]

Tourist parks can be defined as open areas specifically designed for the purpose of entertainment, recreational activities, and education, which often feature natural, cultural, historical, or a combination of these elements (Dewi, 2016). The main aspect of a tourist park is to create an environment that captivates and entices visitors (Ulfalah dkk, 2023). Tourism is a key sector to drive economic activity by introducing the natural beauty, values, and culture of East Java(Kristanti dkk, 2023). It involves meticulous planning and design to ensure that tourist parks are able to provide a satisfying experience for various segments of society. Regardless of the purpose which can vary, such as nature conservation, environmental education, or simply recreation, tourist parks always emphasize the importance of harmony between humans and their environment.

According to Ashihara (1983), an open space is a part of outer space that has a certain limit that has a function, a purpose, and will of man. The limits are marked by frame that was mentioned above, our perspective towards frame itself is positive. Meanwhile, the space outer frame that is unlimited is called negative space. The outer space, certainly, has a significant role towards the development of its community. The existence of the outer space areas will bring some effects to the community who utilizes it in everyday life. Some of the functions of the outer space areas are:

1. Social function: the outer space areas are places to communicate, socialize, play, exercise, gain alot of fresh air, wait for other activity, become the limit between building masses, become the connector between one place and another, become a mean for the research and the education as well as the counseling for community to build the environmental awareness.
2. Ecological function: the outer spaces areas function to soften building architecture, absorb rain water, prevent flood, refresh the air, improve the microclimate by reducing heat and pollution, maintain and the balance of the ecosystem (Widjajanti dkk, 2020)

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3. Methods

The type of research method used is a qualitative method to obtain information and analyze visitor needs, using field study methods and literature studies to obtain data directly from selected objects that have a relationship with the design object. Literature studies are conducted to find existing problems in order to obtain solutions to these problems.

4. Design Result

4.1 Location Description

The location of the site to be used in this design is on Jalan Raya Pantura, Gadingrejo Village. Gadingrejo District, Pasuruan City, East Java. With a land area of 2 hectares. This site has boundaries in the north is the main road, namely Jl. Raya Pantura, in the south is bordered by rice fields, in the east is bordered by the City Transportation Office and in the west is bordered by City Hall.



Figure 1 Site Location

The design is adjacent to the main access road that connects the city with the district of Pasuruan City. Pasuruan City is located in the center of Pasuruan City district, lying between 112°45′-112°55′ East Longitude and 735-745 South Latitude. To the north it is bordered by Pasuruan City, Madura Strait and Sidoarjo Regency, to the south by Malang Regency, to the west by Mojokerto Regency and Batu City, to the west Pasuruan City is a lowland with an average height of 4 meters above sea level and the topography is very gentle with a slope of 0-1% from south to north.

The location of this site is also strategic, which has boundaries with:

- Kurnia Restaurant
- Hotel Ascent Premiere
- Dinas Perhubungan Kota
- Balai Kota
- Transit Hotel
- Minimarket

4.2 Land Used

This land is located on Jl. Raya Pantura, Gadingrejo Village, Gadingrejo District, Pasuruan City, East Java. it has public and privacy zones. the public zone has flower garden facilities, art exhibitions, indoor and outdoor playgrounds, tie dye workshops, push bikes, swimming pools, food courts, gift shops, and

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prayer rooms. the privacy zone includes counters, warehouses, janitors, management offices, service rooms, and manager parking.

4.3 Design Concept

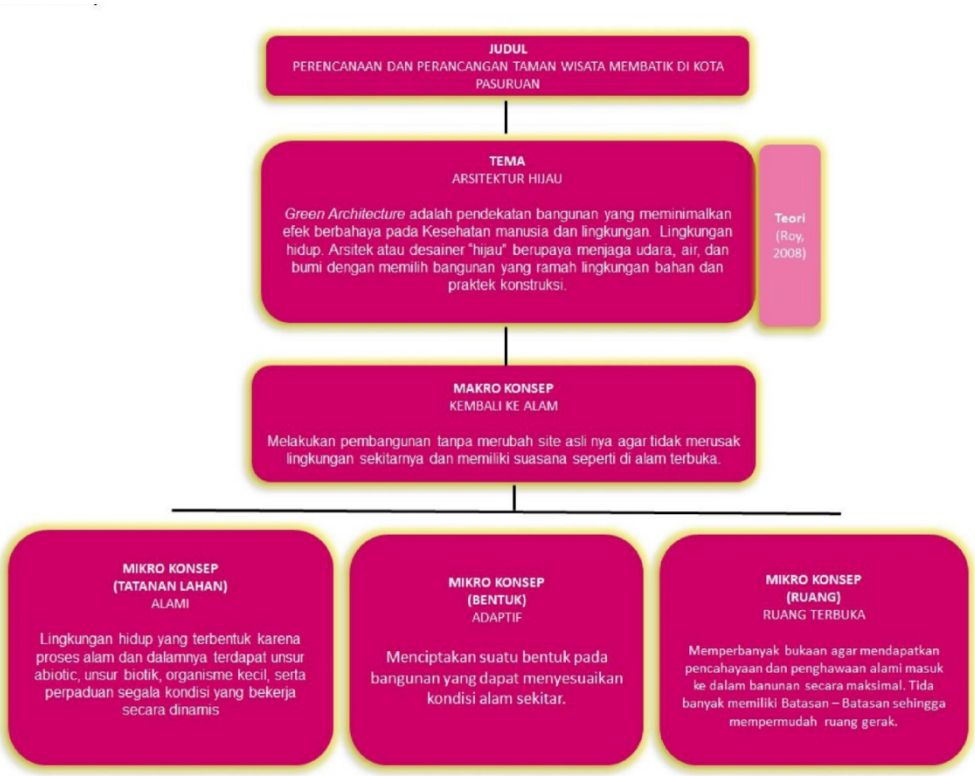


Figure 2 Schematic Design Concept

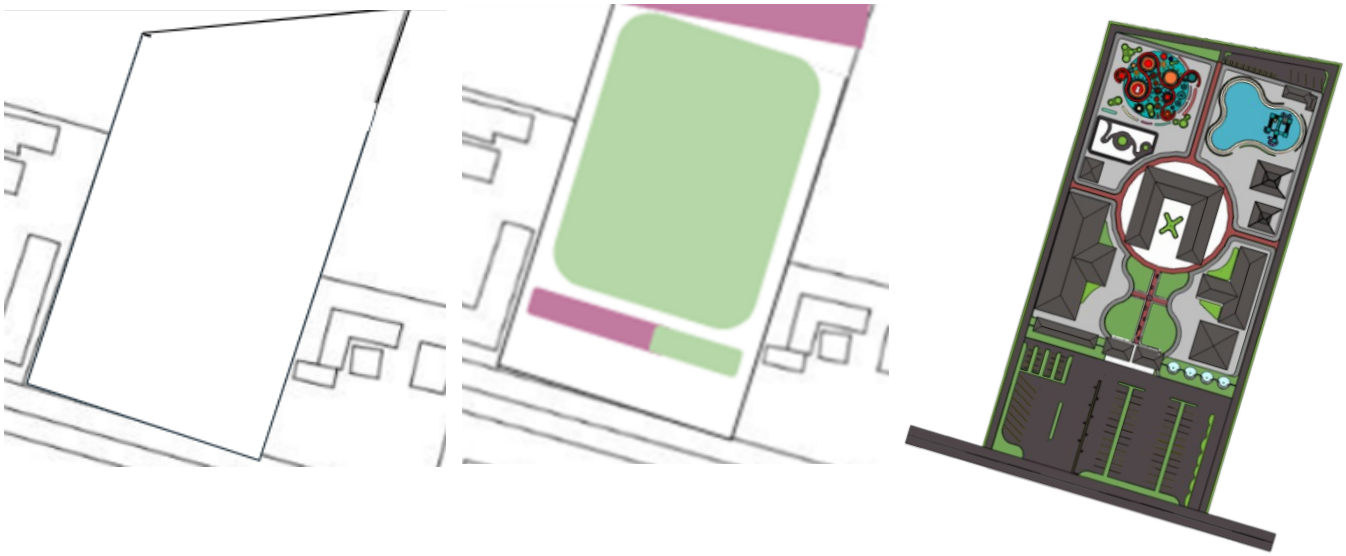


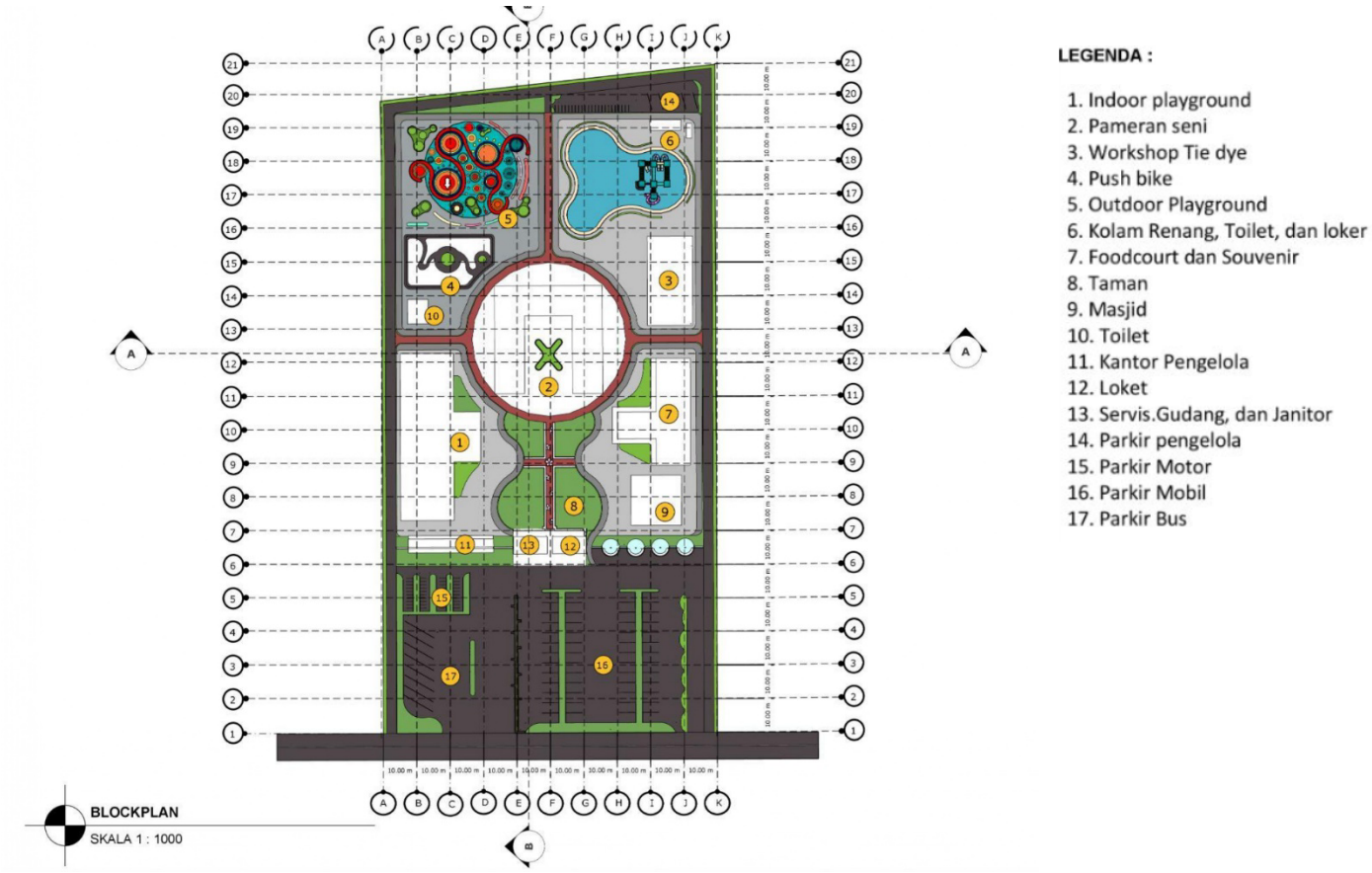
Figure 3 Transformation of Cultivated Land

Macro and micro concepts play an important role in land structure transformation. The macro concept refers to the large-scale planning and design of urban areas, while the micro concept refers to the detailed design of individual buildings and spaces. In terms of mass placement, the macro concept is

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responsible for the overall layout of the city, including the placement of buildings, roads and open spaces. Mass orientation is another important aspect of land transformation. The placement of green open spaces is also an important consideration in land transformation. Finally, circulation is a key aspect of land transformation. The macro concept is responsible for the overall circulation pattern within the city, including the placement of roads, sidewalks, and other transportation infrastructure. The micro concept, on the other hand, focuses on the detailed design of individual roads and sidewalks, including their width, materials, and other features (Senik dan Uzun, 2022).

4.4 Blockplan, Siteplan, and Layout Design



Gambar 4 Blockplan

In this tourist park design, the flower garden is placed in the center adjacent to the entrance which is equipped with an art exhibition building, indoor playground, prayer room, food court and gift shop.

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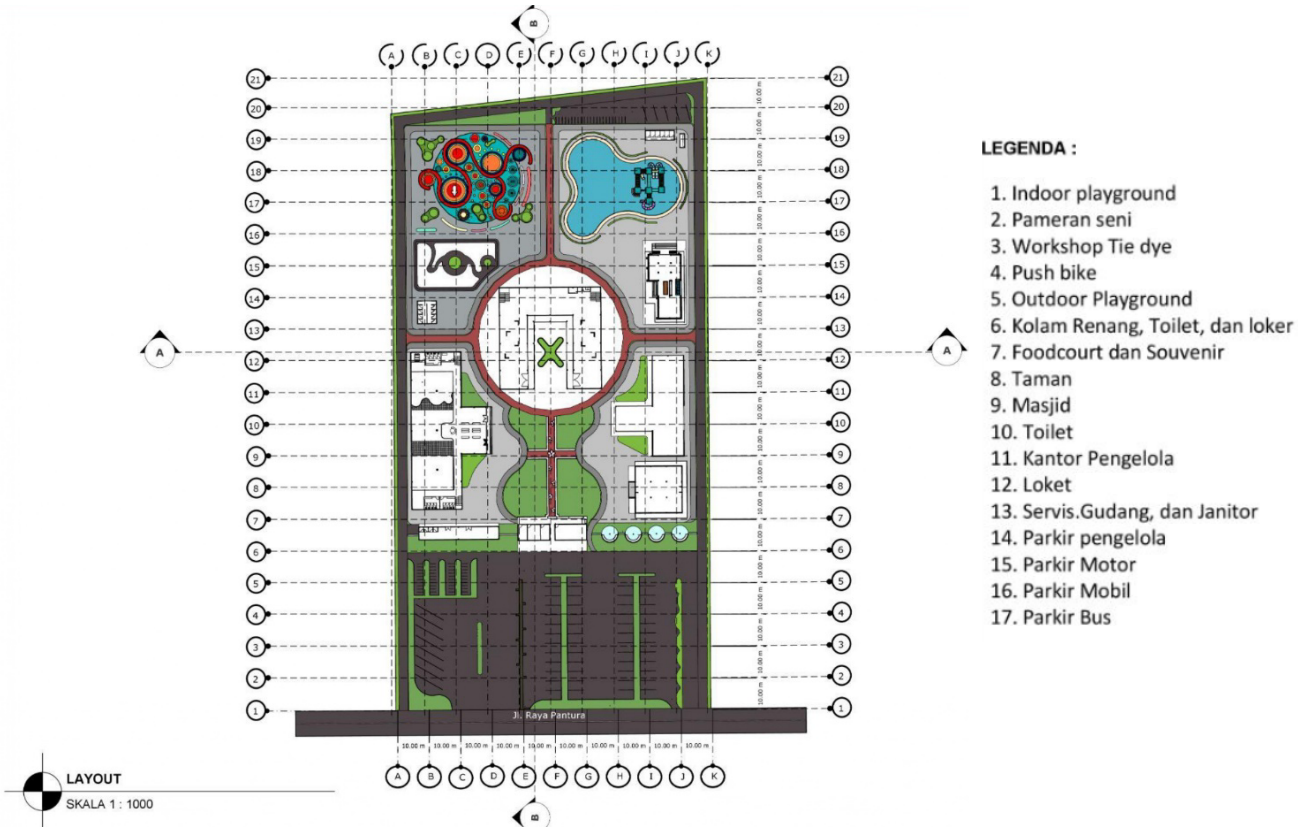


Figure 5 Layout

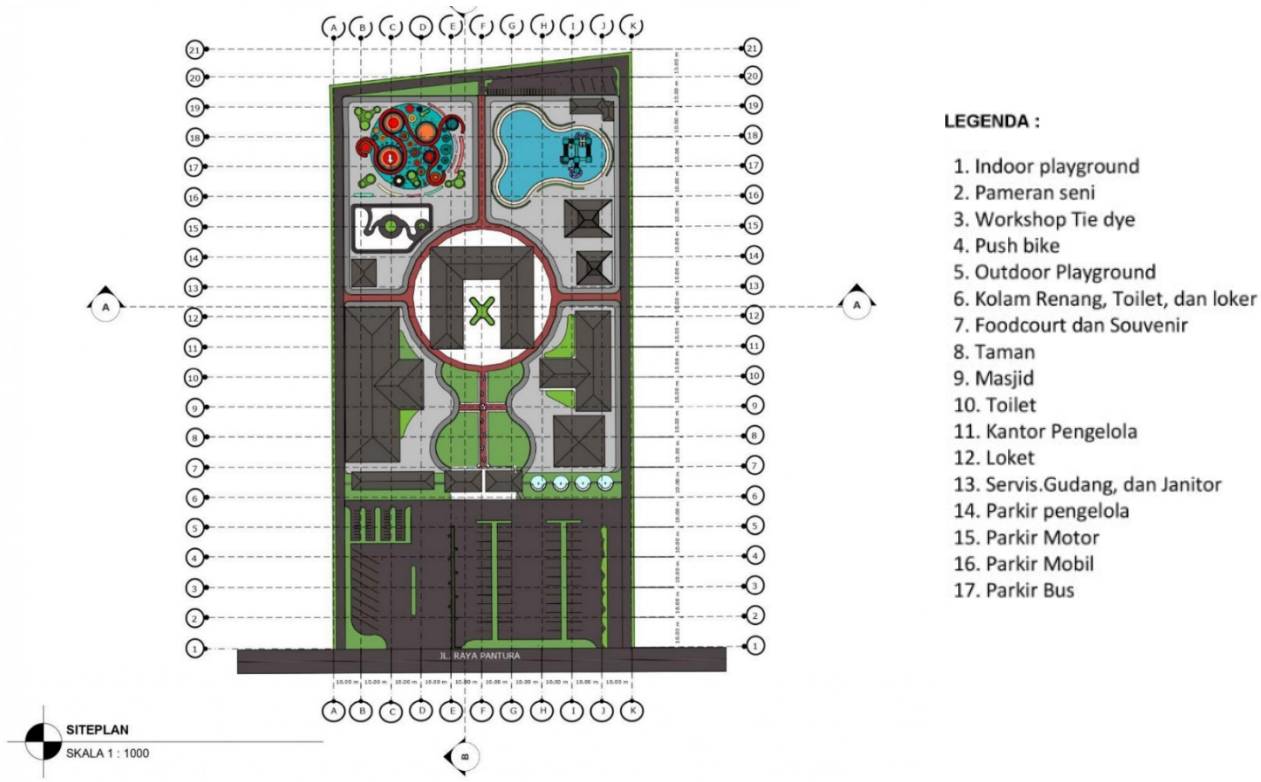


Figure 6 Siteplan

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Circulation in the tourist park area is shown at the front near the car and bus parking lots at numbers 16 and 17. Then directed towards the entrance in the middle between the counter building at number 12 and the service building, warehouse, janitor at number 13. While the exit is different from the entrance which is next to the counter building

- Public
  - Flower Garden
  - Art Exhibition
  - Indoor Playground
  - Workshop Tie Dye
  - Push Bike
  - Outdoor Playground
  - Swimming Pool
  - Food court
  - Gift shop
  - Mushola
  - Motorcycle, Car, Bus parking areas
- Privacy
  - Management Office
  - Counter
  - Manager Parking
- Service
  - R. Servis
  - Gudang
  - Janitor



Figure 7 Bird's Eye Perspective of the Land Used

5. Conclusion

The park is located on Jl. Raya Pantura, Gadingrejo, Pasuruan City East Java. The tourist park is easy to reach because it is located on the edge of the road facing north and directly adjacent to

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the main road. Because it is located in a place that has a tropical climate, the tourist park is designed as comfortable as possible so that visitors feel at home by utilizing the application of vegetation to the maximum so that the air feels cool, reduces heat and can reduce air pollution considering this tourist park is on the edge of the road. The existence of Planning and Designing Tourist Parks in Pasuruan City aims as a place of entertainment, play, and education. This tourist park provides an Art Exhibition that will introduce traditional culture about various types of batik motifs that are applied to home furnishings in Pasuruan furniture.

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