

SHOPPING PLAZA IN BENGKAYANG REGENCY WITH AN ORGANIC ARCHITECTURE APPROACH

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Abstract. The development of a city is influenced by local factors such as population size, socio-economic aspects, and culture. Collaboration between the government, stakeholders, and the community is essential to ensure sustainable urban growth. The construction of modern shopping centers has significant impacts, including boosting the local economy, increasing residents' income, promoting tourism, and enhancing infrastructure. Although Bengkayang Regency holds great economic potential, it currently lacks a modern shopping center. Therefore, building a modern shopping plaza is crucial to support economic growth and improve the well-being of the local community. The goal of designing the shopping plaza is to accommodate the daily needs, entertainment, and lifestyle of Bengkayang Regency's residents with a modern design that blends seamlessly with nature. The proposed site is located in Sebopet Village, Bengkayang District, Bengkayang Regency, West Kalimantan. The site is situated near the Bengkayang traditional market and government center but not too close to residential areas. To achieve these objectives, various methods are applied, including site surveys, literature reviews, and precedent studies of shopping centers. The design incorporates the principles of organic architecture, aiming to create environmentally friendly spaces that harmonize with nature. Key elements of the organic architecture approach include Building as Nature, Form Follows Flow, Of the People, Of the Materials, Youthful and Unexpected, and Living Music. With the application of these principles, the shopping center is expected to serve as a comprehensive space that provides both physical and non-physical benefits, while also contributing to local economic development.

Keyword: *Shopping Plaza, Bengkayang Regency, Organic Architecture.*

INTRODUCTION

Urban development is a complex process that can take years to unfold. Each city has its unique characteristics, and its growth is influenced by various local factors. It is

crucial for the government, stakeholders, and local communities to collaborate to ensure sustainable urban development that benefits all residents. Over time, city development results from population growth, socio-economic and cultural changes, and

interactions with neighboring cities. Physically, urban development can be seen in population density, increased building construction, and the expansion of built-up areas (Kalesaran, 2013).

In principle, development aims to improve the well-being of society in all aspects of life, such as economic, social, and environmental. The development of modern shopping centers in both small and large cities in Indonesia has a significant impact on urban growth (Hariyono, in Cahyaningtyas, 2015). The growth of cities in Indonesia, driven by the trade and service sectors, can create jobs, improve quality of life, and contribute to national economic growth. Local governments and relevant institutions must work hard to ensure this development is balanced with environmental sustainability and economic equality.

The trade sector in West Kalimantan has experienced significant growth due to advancements in the economy and infrastructure. As part of the strategically located Kalimantan Island, West Kalimantan has great potential for trade, especially since it shares a direct border with Malaysia. Between 1998-2008, trade, hotels, and restaurants became key sectors with a Location Quotient (LQ) above one, indicating their role as growth drivers. These sectors not only meet local needs but also have export potential. The growth in these sectors aligns with increased demand for a variety of goods. Pontianak, the provincial capital, has become a hub of diverse activities, attracting people from other regions. Its strategic location along the Indonesia-Malaysia border further strengthens its economic advantages (Kurniawan, 2010).

Bengkayang is a regency located in West Kalimantan Province, Indonesia, uniquely bordered directly by Malaysia. This proximity highlights its importance in bilateral trade relations between Indonesia and Malaysia, especially in West Kalimantan. The region has

diverse economic potentials, including agriculture, fisheries, forestry, tourism, creative industries, modern shopping malls, and infrastructure, all contributing to local economic growth. The border area requires economic activities to drive development. However, the local government has yet to establish a trade zone for cross-border residents. This could enable them to engage in economic and trade activities like traditional markets, without the restrictions of national regulations. While potential issues like crime may arise, these can be managed with cooperation. The two neighboring countries should work together to create a border trade zone with regulations to manage and develop it. This could stimulate regional economic growth. Additionally, Bengkayang's population is increasingly modern, influenced by social, economic, and cultural development. Modern society tends to adopt more sophisticated, tech-connected lifestyles, with a strong consumer-oriented behavior, as seen in their frequent visits to shopping malls, which offer not only goods but also entertainment and relaxation (Wangke, 2012; Apriliana, 2019).

Bengkayang Regency consists of 17 districts, 122 villages, and 2 subdistricts. The capital city, Bengkayang, only has a traditional market that provides basic goods at affordable prices for the community, fulfilling its general purpose (Usman, in Beni, 2022). The quote indicates that Bengkayang lacks modern shopping malls, with only traditional markets available. However, many residents of Bengkayang tend to adopt a modern lifestyle to meet their needs or simply spend their leisure time in shopping centers.

The presence of a shopping plaza in Bengkayang Regency has significant potential and positive impacts on the economy and society, such as local economic development, increased income, tourism attraction, improved infrastructure, and the provision of public facilities. However, challenges such as traffic congestion, waste management, and the

impact on local businesses must be considered. Therefore, thoughtful planning and attention to the interests of the local community are essential. The establishment of shopping centers is expected to stimulate social development, create new jobs, and increase purchasing power. It will also generate tax revenue for the local government, supporting infrastructure and public service projects, thus contributing to the economic growth of Bengkayang through increased economic activities around the shopping plaza.

Bengkayang Regency is a region rich in natural beauty and cultural uniqueness, with the majority of its population being Dayak ethnic. Additionally, Bengkayang is abundant in tourism related to local wisdom and natural resource diversity (Sumarni, 2022). Therefore, the concept used in planning the shopping plaza in Bengkayang should be connected to nature and living beings. One modern architectural concept that explores the relationship between nature and the environment is "organic architecture." According to Frank Lloyd Wright (in Friyessi, 2022), organic theory emphasizes the relationship between humans and nature through an approach to site location, where both are integrated. Hence, the organic concept is highly suitable for planning the shopping plaza in Bengkayang.

METHODS

This Architectural Design Report uses a descriptive method, by collecting factual data about the existing conditions of the area in Kabupaten Bengkayang and its surrounding areas through Literature Study, Observation Study, Data Analysis, and Conclusion.

CONCEPT

The planning of the Shopping Plaza in Bengkayang Regency uses an architectural approach.

Site Determination Criteria

Bengkayang Regency, West Kalimantan. It falls under Class 1 land capability with 70%

land coverage, designated as a hub for trade, financial services, goods distribution, transportation nodes, and government services.

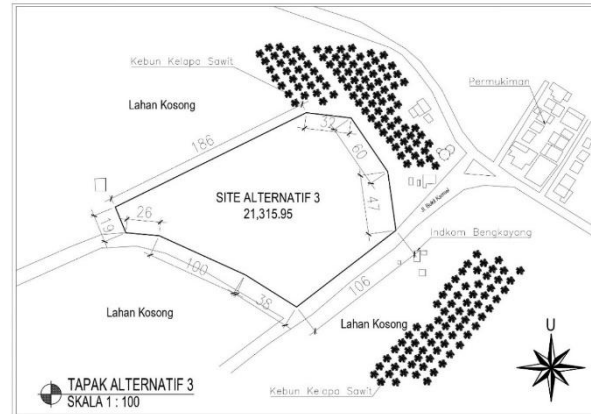


Figure 1 Size and Shape of the Site

Source: Processed from Google Earth, 2024

Site Data

Site Location: Jalan Raya Bukit Karmel, Sebopet Village, Bengkayang District, Bengkayang Regency, West Kalimantan.

Site Area : $\pm 7,214.81 \text{ m}^2$.

Designation: Shopping Center.

Building Coverage Ratio (BCR): 70% of the land area.

Green Coverage Ratio (GCR): 30% of the land area.

Floor Area Ratio (FAR): 3-4 floors.

Building Setback Line (BSL): 7 meters.

Site Boundaries

North : Jalan Sanggau Ledo

South : Residential Houses

East : Vacant Land

West : Vacant Land

Contextual Aspect Approach

1. Circulation Analysis

The accessibility and circulation on the site include motorcycle traffic, private cars, city transportation, and rural buses. This situation is likely to result in unorganized circulation due to the absence of pedestrian pathways, leading to cross-circulation that interferes with one another.

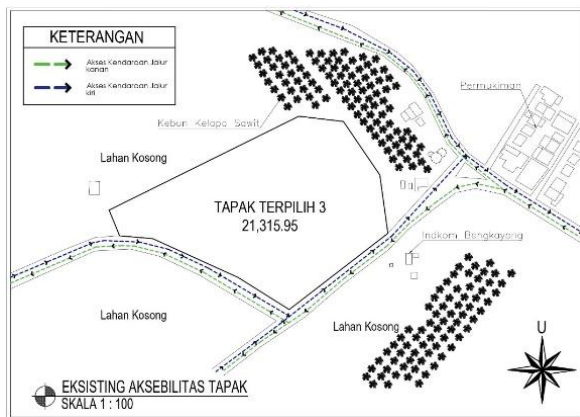


Figure 2 Existing Site Accessibility Data
Source: Processed from Google Earth, 2024

2. Sensory Analysis

Visual analysis helps determine the optimal location for building occupants. For shopping centers, the ideal orientation is northwest, west, south, and east. A northwest-facing building benefits from mild afternoon sunlight, creating a comfortable atmosphere with attractive views. Westward orientation offers sunset views and scenic vistas of forests and open land. A south-facing building allows for natural light throughout the day, with pleasant views of forests and trees.

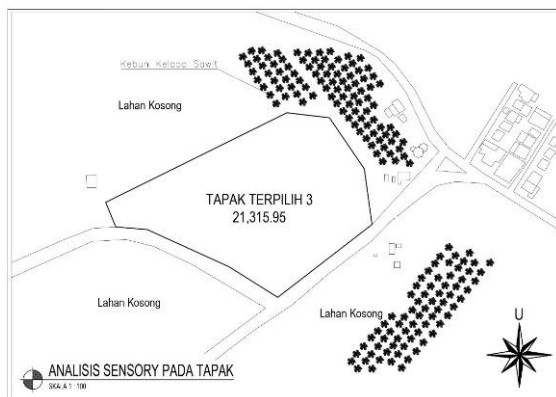


Figure 3 Sensory Analysis
Source: Processed from Google Earth, 2024

3. Climatological Analysis

The sun's path on the site shows that it rises in front, adjacent to Bukit Karmel Street, and sets behind the building, next to the vacant land.

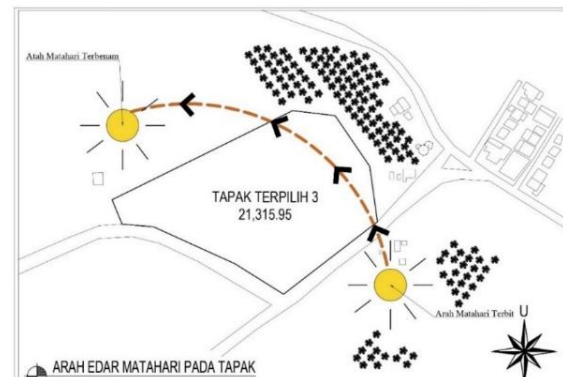


Figure 4 Sun Path
Source: Processed from Google Earth, 2024

4. Wind Direction Analysis

The western part of the site experiences relatively low wind speeds and is directly adjacent to vacant land. The southern part receives higher wind speeds and borders Bukit Karmel Street. The northern part faces high wind speeds and borders an oil palm plantation.



Figure 5 Wind Direction
Source: Processed from Google Earth, 2024

5. Noise Analysis

The western part of the site has low noise levels due to the relatively quiet road. The eastern part experiences moderate noise levels, as the road is less congested.

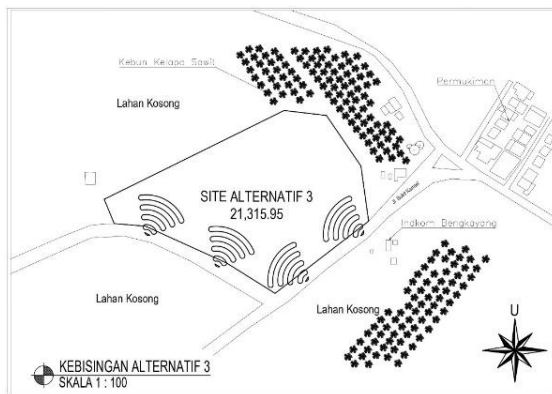


Figure 6 Noise Analysis

Source: Processed from Google Earth, 2024

Architectural Concept Approach

The shopping center in Bengkayang Regency will adopt an organic architecture approach, a concept that blends with nature to create environmentally friendly spaces that promote human well-being and environmental sustainability. The design will follow six principles of organic architecture, a part of modern architecture, including:

a. Building as Nature

In applying the "building as nature" concept, the shopping plaza design focuses on creating a harmonious relationship between the architecture and its environment. Existing trees on the site are strategically placed to minimize impact on nature. The concept also includes the use of green roofs to enhance the sense of unity with nature.

b. Form Follows Flow

The "follows flow" principle aims for the shopping center to adapt to its surrounding environment. This is achieved through careful consideration of lighting and ventilation, placed optimally to create a comfortable and efficient environment for occupants. The implementation of this principle in the shopping plaza in Bengkayang Regency includes large, medium, and small retail spaces, as well as management and service areas.

c. Of The People

"Theory of the People" focuses on space usage, considering the needs and preferences of users. The application of this concept in the shopping center aims to create spaces that align with and satisfy user needs. In this principle, nature is integrated into the building as a unified element, with the connection between indoor and outdoor spaces enhanced by nature, providing a restorative effect for occupants. The implementation of the "Of The People" principle will include large, medium, and small retail spaces, management areas, service zones, and outdoor spaces.

d. Of The Materials

In applying the "of the materials" principle, the building will use materials such as concrete, wood, and natural stone. The use of these diverse materials aims to create textural variety and natural elements in the building structure, providing a harmonious and aesthetic effect. This principle will be implemented in large, medium, and small retail spaces, management areas, service zones, and outdoor spaces.

e. Youthful and Unexpected

In applying the "youthful and unexpected" principle, the shopping center in Bengkayang focuses on designing the building's form to be interesting and irregular. This approach aims to create a dynamic atmosphere with a fresh and surprising impression.

f. Living Music

In applying the "living music" concept, the shopping center design in Bengkayang will feature a harmonious or rhythmic facade. This creates an environment that blends visual beauty with functionality, offering an aesthetically captivating shopping experience for visitors.

DESIGN RESULT

A site plan is a visual representation that shows the relationship between a building or architectural project and its surroundings. It is

often used in planning and presentations to provide context for the project location. The shopping plaza in Bengkayang Regency is located on Jalan Bukit Karmel, Desa SeboPET, Kecamatan Bengkayang, West Kalimantan.

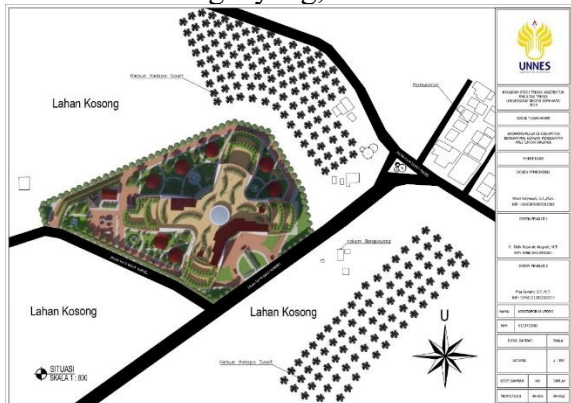


Figure 7 Site Plan

The site plan of the shopping plaza in Bengkayang Regency is presented in a top view, providing essential information on the building's design within its location context. It offers an overview of the spatial layout, ensuring efficient land use while considering accessibility, security, and environmental sustainability.

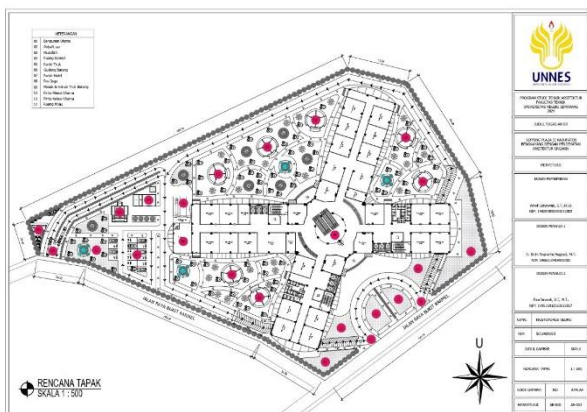


Figure 8 Site Plan

The basement floor plan of the Shopping Plaza in Bengkayang Regency has three levels, with a capacity to accommodate 272 four-wheel vehicles and 688 two-wheel vehicles.

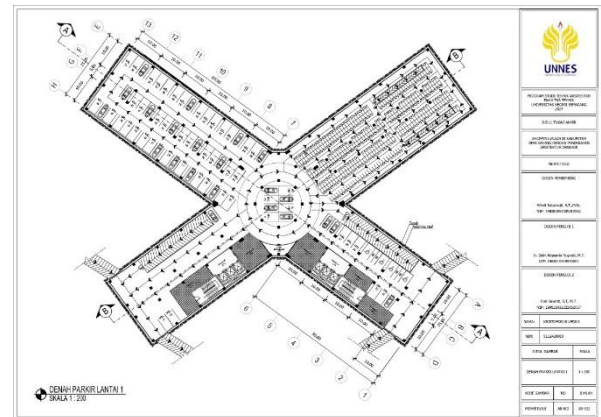


Figure 9 First Floor Parking Plan

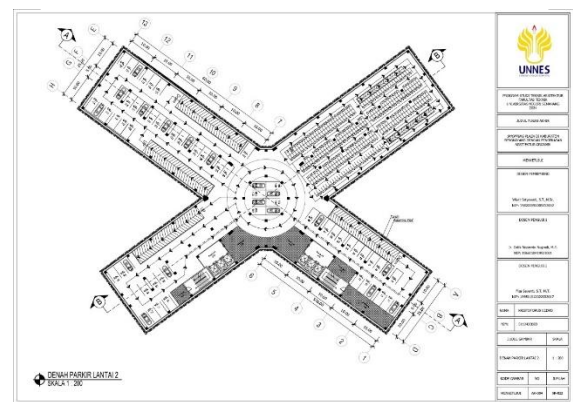


Figure 10 Second Floor Parking Plan

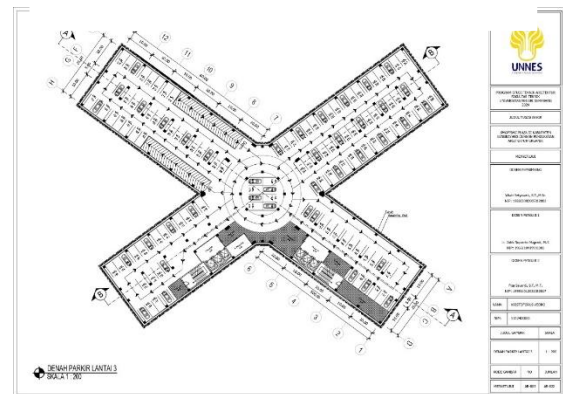


Figure 11 Third Floor Parking Plan

The first-floor plan is an architectural drawing showing the layout of spaces on the building's first floor. The first-floor plan of the Shopping Plaza in Bengkayang includes 24 medium-sized retail units and 3 large retail units.

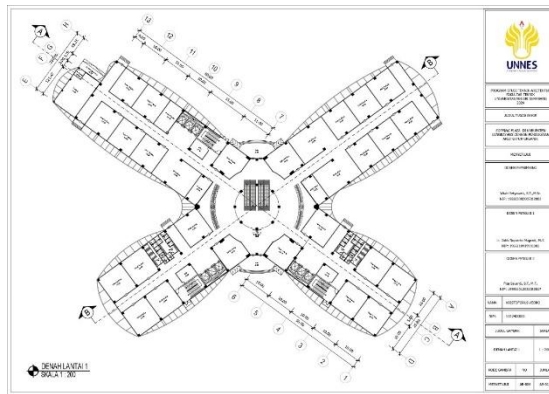


Figure 12 First Floor Plan

The second-floor plan is a visual representation showing the layout and division of spaces on the building's second floor. For example, the second-floor plan of the Shopping Plaza in Bengkayang includes 29 small retail units and 8 medium-sized retail units.

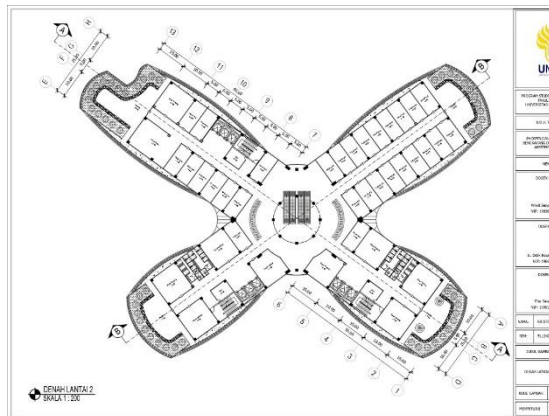


Figure 13 Second Floor Plan

The third-floor plan is a visual representation showing the layout and division of spaces on the building's third floor. For example, the third-floor plan of the Shopping Plaza in Bengkayang is designed as an operational support area for the building.

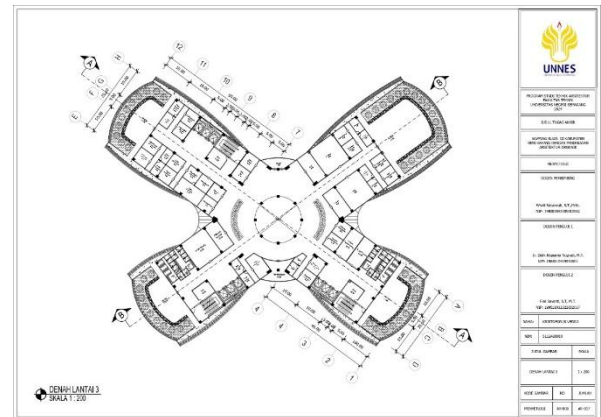


Figure 14 Third Floor Plan

The rooftop plan of the Shopping Plaza in Bengkayang is designed as a service area and relaxation space, utilizing multiple roof gardens to create a green and comfortable atmosphere.

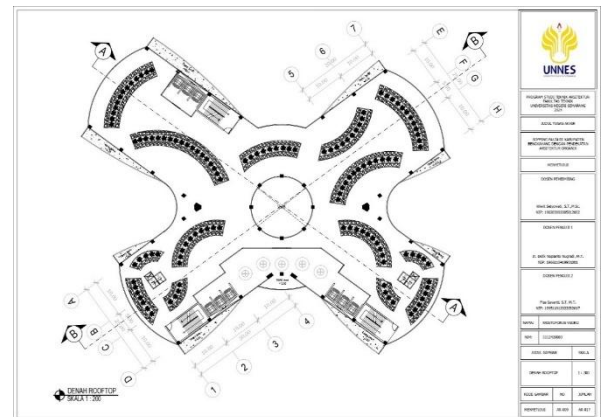


Figure 15 Rooftop Plan

The elevation of the Shopping Plaza in Bengkayang is designed with an organic architecture approach, making its appearance more harmonious with the surrounding environment and reflecting an eco-friendly concept.



Figure 16 Front Elevation

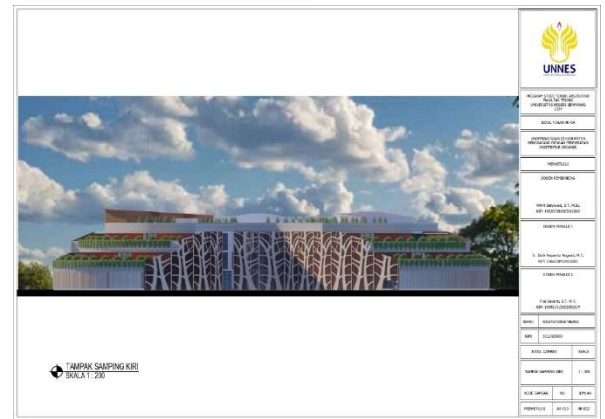


Figure 19 Left Side View



Figure 17 Rear Elevation



Figure 18 Right Side View

The A and B sections of the shopping plaza in Bengkayang Regency are determined based on the cutting lines established in the building plan, providing a clearer view of the spatial layout and building structure at specific points.

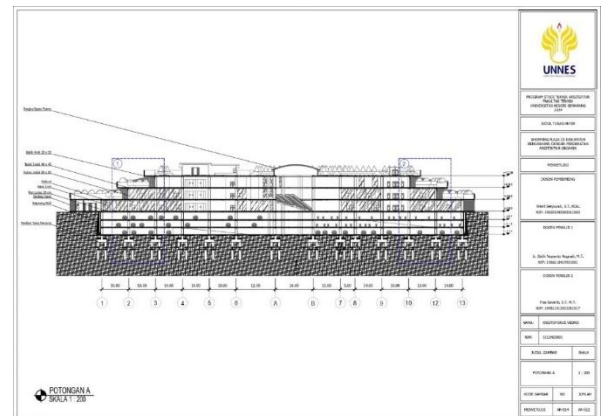


Figure 20 Section A

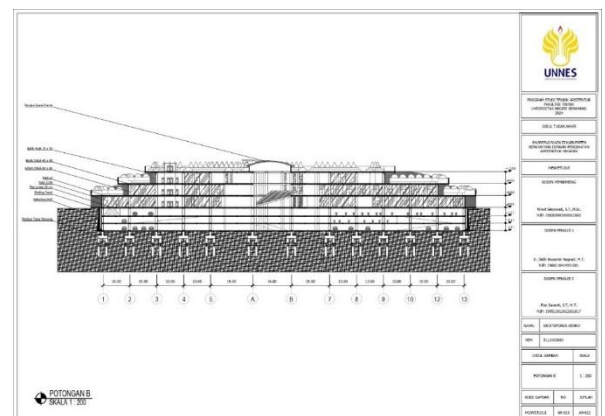


Figure 21 Section B

The exterior perspective image is a visual representation of a building or space showing how it appears in three-dimensional (3D) perspective from a specific viewpoint. It is used in architectural design to provide a more realistic depiction of the shape, size, and spatial relationships within a building or area. Below is the perspective image of the shopping plaza building in Bengkayang Regency.



Figure 22 Exterior Perspective 1

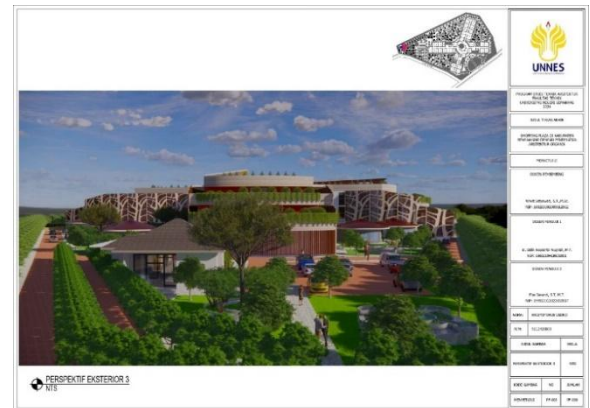


Figure 24 Exterior Perspective 3

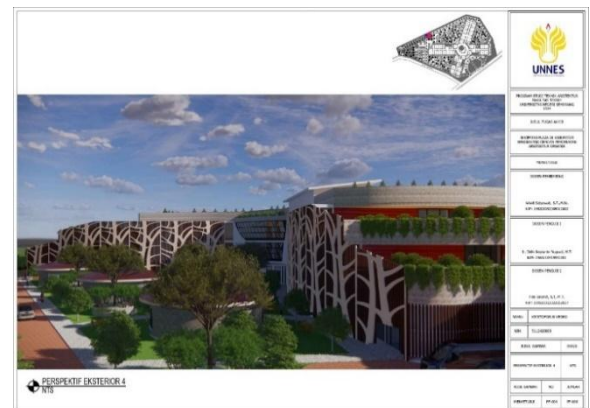


Figure 25 Exterior Perspective 4



Figure 23 Exterior Perspective 2
Source: Author 2024



Figure 26 Exterior Perspective 5

Interior perspective is a visual representation of an interior space showing how it will appear from a specific viewpoint, focusing on elements like furniture, lighting, materials, and decorative details. The purpose is to

provide a realistic three-dimensional view of how the space will feel and function once completed. Below is the interior perspective of the shopping plaza building in Bengkayang Regency.

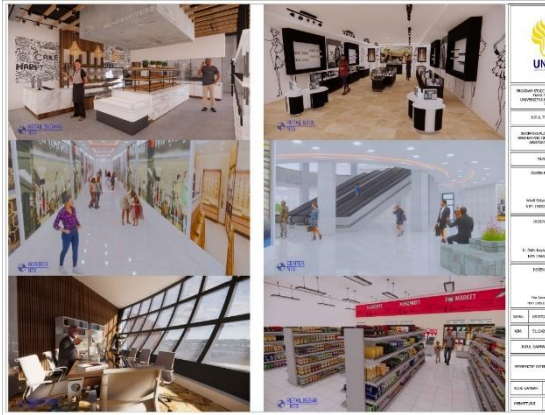


Figure 27 Interior Perspective

CONCLUSION

The development of a modern shopping plaza in Bengkayang Regency holds great potential to support economic growth and community welfare. The design aims to meet daily needs, entertainment, and lifestyle requirements, utilizing an eco-friendly organic architecture approach that harmonizes with nature. Strategically located near a traditional market and government center, yet sufficiently distanced from residential areas, the project is planned through site surveys, literature reviews, and precedent studies. The goal is to create a design that positively impacts both the physical and socio-economic aspects, fostering sustainable local economic development.

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