

A FASHION HUB UTILIZING HYBRID ARCHITECTURAL DESIGN IN WEST JAKARTA: LANGGAM WASTRA NUSANTARA

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ABSTRACT. T&P (Textile and Products) industry forms a foundational pillar of Indonesia's creative economy, as delineated in the UNESCO Framework for Cultural and Creative Industries (2009). It substantially drives employment creation (accounting for over 3.8 million jobs in 2022; Badan Pusat Statistik, 2023) and reinforces the national manufacturing sector amid global value chain integration. Leveraging its profound cultural patrimony and multifaceted textile legacy, Indonesia has established itself as a preeminent global fashion center and among the foremost fashion exporters in 2022, with forecasts anticipating sustained expansion of the domestic fashion industry's valuation through 2029. However, the industry also faces challenges of order attrition, deindustrialization, restricted entry, fragmentation of industry players, and the flooding of the domestic market with imported products. The optimization of indigenous cultural assets, notably wastra Nusantara, is positioned as a strategic approach to improving both inclusivity and competitiveness within the national fashion ecosystem. Langgam Wastra Nusantara embodies a novel architectural approach that integrates collaborative, promotional, and commercial functions to strengthen the national indigenous textile industry. The design synthesizes traditional fabrics with wastra Nusantara, establishing a platform that is both adaptable and capable of competing within the global fashion. This initiative is further reinforced by its strategic location in the Administrative City of West Jakarta, which provides high accessibility, efficient distribution systems, and adequate supporting infrastructure for commercial purpose.

Keywords: *Fashion Hub; Hybrid Architecture; West Jakarta*

INTRODUCTION

T&P (Textile and Products) industry is one of the key supporting sectors of Indonesia's creative economy, contributing significantly to employment generation and the growth of the national manufacturing

industry. Supported by rich cultural assets and a diverse textile heritage, Indonesia holds substantial potential to emerge as a global fashion hub. This potential is reflected in a study by Public Desire (2024), which ranks Indonesia sixth among global

fashion centers, as well as its position as the world's 16th largest fashion exporter with a market share of approximately 1.69% in 2022 (Ministry of Trade of the Republic of Indonesia, 2022). Furthermore, the value of the national fashion industry continues to demonstrate steady growth, reaching USD 13.8 billion by the end of 2024 and projected to increase to USD 18.1 billion by 2029 (World Fashion Exchange, 2024).

Despite these positive indicators, such growth has not been fully reflected in on-the-ground industrial conditions. Between January and June 2024, the Confederation of Indonesian Workers' Unions (KSPN) recorded the termination of employment for more than 13,800 workers, alongside signs of advanced deindustrialization within the textile sector. In addition, the Ministry of Industry of the Republic of Indonesia reported that since 2022, at least 60 textile companies have submitted notices of business closures, layoffs, or workforce furloughs.

Declining orders from both export and domestic markets have been identified as a primary factor contributing to the downturn of the national textile industry. This situation is further exacerbated by structural challenges, including limited market access due to trade barriers, dependency on vertically integrated production infrastructure, insufficient collaborative platforms among industry stakeholders, and the influx of imported textile products. These conditions are partly linked to Indonesia's participation in the Asia Pacific Trade Agreement (APTA), which has not yet been balanced by strengthened domestic regulatory measures.

In response to these challenges, strategic innovation is required to enhance the competitiveness of the national fashion industry. Wastra Nusantara, traditional textiles infused with profound local cultural values and philosophical significances, offers substantial potential as a unique, inimitable identity that imported products cannot readily duplicate (Yusuf dkk, 2022). This attribute establishes Wastra Nusantara

as a vital resource for fortifying Indonesia's fashion sector, especially within the burgeoning modest fashion market, which has attracted increasing global recognition.

To address this need, the Fashion Hub is conceptualized as an integrated development platform that connects the national fashion industry supply chain, encompassing design, production, distribution, and marketing processes. The provision of collaborative spaces for designers, producers, business actors, and academics is expected to foster efficiency, innovation, and increased market exposure.

METHODS

This final project employs a descriptive research methodology to elucidate and analyze the requisites and design criteria for planning and developing the Fashion Hub: Langgam Wastra Nusantara in West Jakarta, utilizing a hybrid architecture approach. The method encompasses literature reviews, observational studies, data analysis, and synthesis of conclusions. In this context, hybridity integrates cultural elements from diverse wastra traditions across the Indonesian archipelago, contemporary lifestyles, and fashion principles into a cohesive architectural form.

CONCEPT

The Hybrid Architecture Approach in designing the Fashion Hub was selected due to its alignment with the contemporary fashion industry's demands for flexibility and adaptability amid evolving temporal dynamics. This approach facilitates the synergistic integration of complementary design elements and construction techniques, enabling a harmonious fusion of conventional textiles and Wastra Nusantara. Consequently, the building design prioritizes dynamic and contemporary concepts that represent general textile elements, while sustaining responsive motifs that continuously explore Wastra Nusantara without diminution.

SITE DATA

The planning location for the Fashion Hub : Langgam Wastra Nusantara is site located on Sunset Avenue Street, Citra Garden City 8, Pegadungan Village, Kalideres District, West Jakarta Administrative City, with a site area of $\pm 25,000 \text{ m}^2$.

Table 1 Administrative Data Site

North	Sunset Avenue Lake at Citra 8
South	Commercial Shophouses
East	Commercial Shophouses & Residential
West	Vacant land, Main Gate Citra 8, JORR 2 Toll Road, and Soekarno-Hatta International Airport

Geographically, the site is bordered by:

Table 2 Administrative Data Site

Building Base Coefficient	Maximum 55%
Building Floor Coefficient	Max 3 Floor
Green Base Coefficient	Minimum 20% (Public)
Building Border Lines	8 m from site boundary
Building Height Coefficient	Maximum 60%

Administrative data regarding the area of the site and regulations related to the spatial plan on the site are as follows:



Figure 1 Site

CONTEXTUAL ASPECT APPROACH

a. Solar Climatology Analysis

1) Analysis

- The sun rises from the east side of the site, adjacent to the Citra Garden 8 highway, the primary thoroughfare in the area during the morning. It then progresses toward the west side, which

borders vacant land in the afternoon.

- The site is situated on vacant land zoned for medium-scale (WP) trade and services, facilitating optimal and even solar illumination. Due to its tropical climate, the area receives year-round sunlight. With no tall surrounding buildings to cast shadows, the area benefits from consistent daily sunlight exposure traversing from east to west. This condition supports passive design strategies.

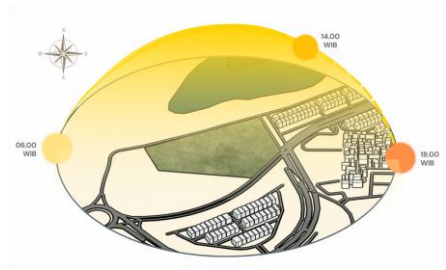


Figure 2 Solar Climatology Analysis

2) Response

- The orientation of the main facade of the building is designed to face south to reduce exposure to incoming sunlight.
- Shading devices, such as brise-soleil on the east and west facades, mitigate peak solar intensity during high-exposure periods. Additionally, shelter provide sheltered transition zones from parking areas to the building entrance, offering protection from direct sunlight and rain.



Figure 3 Solar Analysis Response

b. Wind Climatology Analysis

1) Analysis

Analysis from the Global Wind Atlas reveals that, across a full year at the design site, wind direction from morning to evening predominantly blows from the northwest approaching west, with the highest frequency reaching 15%.

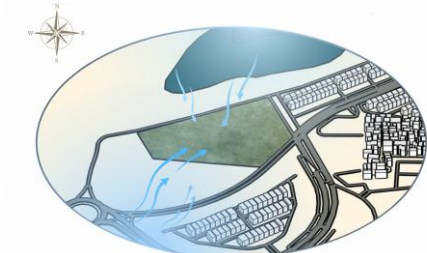


Figure 4 Wind Climatology Analysis

Wind speed frequencies exhibit a daily pattern: relatively low during midday (approximately 12:00–15:00), increasing at night (18:00–23:00) and early morning (00:00–06:00). Seasonally, peak values occur at night during February and December. Detailed data is visualized in the attached graphs.

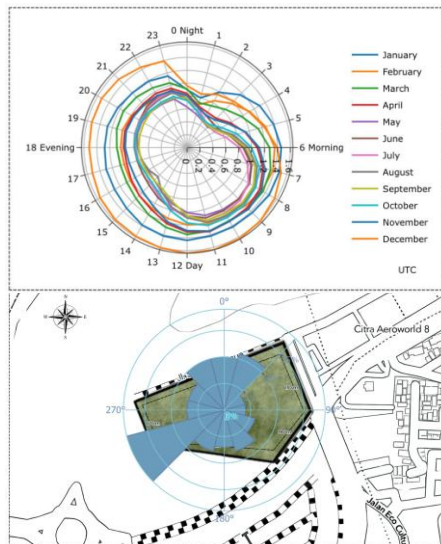


Figure 5 Wind Roses

2) Response

a) Aerodynamic shapes with curved facades and sloped roofs, effectively minimize wind loads on a fashion hub

while enhancing its visual fluidity. This design echoes the draped elegance of couture garments, ensuring structural resilience against prevailing northwest winds.

b) Wind flow supports natural ventilation through open-plan designs. Placing openings in the predominantly sea (west) winds for cross vents.

c) Building massing is strategically segmented into distinct volumes. This approach enhances natural ventilation by promoting airflow between sections, thereby optimizing internal air circulation within the structure.

c. Accoustic Analysis

1) Analysis

There are two types of sounds from the environment around the site:

- Positive sounds, such as the serene and restorative ambiance of the adjacent lake.
- Negative noises, such as vehicle traffic and activities from surrounding buildings that have the potential to be disruptive.

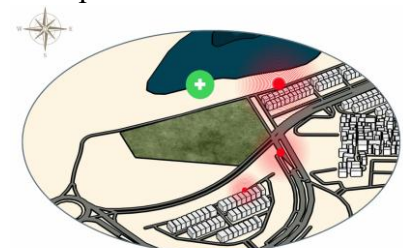


Figure 6 Accoustic Analysis

2) Response

a) The mass placement of the building should be placed away from negative noise sources.

- b) Integrating open spaces, such as communal areas towards positive sources.



Figure 7 Accoustic Analysis Response

d. View Analysis

1) Analysis

a) View From Site

This site offers superior visual quality, featuring optimal orientation toward the lake and southwest views encompassing Citra Garden 8 Circle.

b) View To Site

The optimal external views toward the site originate from the main access on the southeast-south side and Sunset Avenue to the northeast. Both approaches provide prime vistas of the building and site landscape.



Figure 8 View Analysis

2) Response

- a) The southeast-to-south facade serves as the primary building orientation, capitalizing on prominent views from the main road. Secondary skin elements

are recommended to selectively limit external visibility, thereby preserving internal privacy while maintaining controlled transparency.

- b) An alternative primary orientation on the north-to-northeast facade can frame exclusive lake views toward Citra 8 (Sunset Avenue). This approach enhances thermal comfort through favorable solar exposure and delivers calming visual experiences for occupants.

- c) The southwest facade allows strategic openings toward the main roundabout, capitalizing on appealing views while adjacent land remains vacant. This enhances external connectivity under favorable site conditions.



Figure 9 View Analysis Response

e. Topography Analysis

1) Analysis

The topography of the land tends to be flat and uncontoured with stable soil and abundant wild vegetation. Design must prioritize robust foundation and structural solutions to mitigate soil stability risks influenced by local geography.



Figure 10 Existing Topography

2) Response

- Land use optimization.
- Using borepile foundations to support buildings on soil by channeling construction loads to deeper and harder soil layers.

f. Accessibility Analysis

1) Analysis

The design site features a constructed eastern access road, Jalan Boulevard (Ekonomi 1), with a 25-meter width. This four-lane, two-way road is divided by a median of urban vegetation and drainage.



Figure 11 Existing Road Cross-Section

Northern and southern access roads remain under construction. These connect to the primary Citra Garden City 8 network via Jalan Raya Citra Garden 8 and hold the greatest potential as main fashion hub approaches.

2) Response

- Primary user access is designated from the southern site road currently under construction. This optimizes seamless entry for private and public transport while maximizing site visibility.
- Visitor egress routes directly connect to the main Citra 8 arterial road on the eastern boundary.

- Separating service and management access from the primary user entrance creates orderly circulation patterns and prevents cross-traffic conflicts.



Figure 12 Fashion Hub Circulation

g. Vegetation Analysis

1) Analysis

The surrounding site environment features Trembesi trees (*Samanea saman*) planted along the eastern road median and select locations as part of the developer's planned landscape strategy. These trees provide shade, reinforce area identity, and enhance visual comfort for users. Their presence signals systematic landscape management within Citra Garden City 8.

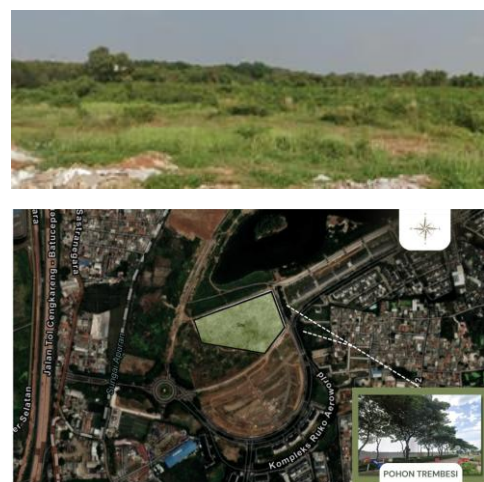


Figure 13 Existing Vegetation

2) Response

To address the site's sparse and unstructured vegetation, the design

introduces active landscaping through layered vegetation patterns functionally integrated with the participatory public spaces of the Fashion Hub. This incorporates shade trees like Tabebuia, ecosystem-balancing Pule trees, and ornamental plants for visual enhancement, as illustrated below.

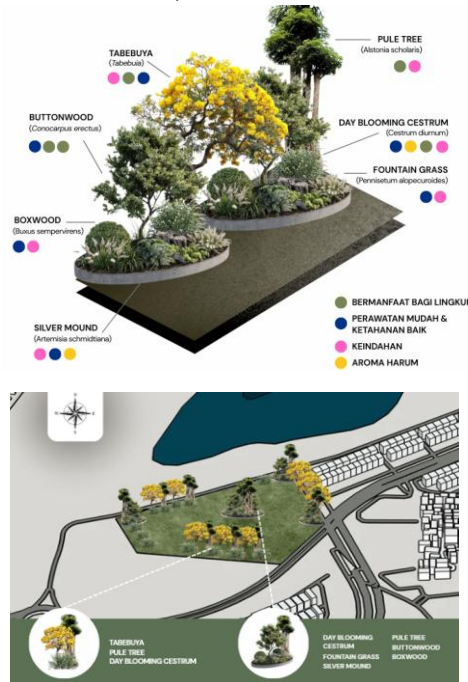


Figure 14 Vegetation Plan Mapping

ARCHITECTURAL ASPECT APPROACH

In the hybrid architecture approach, several core methods are applied in fashion hub design. These methods effectively integrate hybrid principles into the architectural configuration, including the following:

a. Function Integration & Diversity

1) Integration of diverse spatial functions

to support varied activities and interactions within a cohesive, interconnected precinct.

2) Building Mass Arrangement

A centralized and interactive layout where building masses face a communal core, promoting connectivity and social interaction.

3) Building Circulation

Access to the building should ensure comfortable and user-friendly circulation.

b. Urban Area Density

1) Layered Massing

Segmented volumes with interstitial voids reduce perceived density while optimizing floor-to-ceiling ratios for multi-level retail and exhibition spaces.

2) Porous Interfaces

Semi-transparent facades and green courtyards integrate urban fabric, fostering visual permeability between public zones and fashion activities.

c. Flexibility

1) Modular Spatial Grids

Adaptable structural bays with movable partitions enable reconfiguration for fashion shows, pop-up boutiques, and workshops.

2) Dynamic Facade

Realized through dynamic building facades and site plans resembling woven textile patterns.

d. Vertical Connections

1) Sculptural Atriums

Central voids with draped staircases evoke textile folds, linking levels while promoting passive ventilation.

2) Integrated Elevators and Ramps

Curved, flowing vertical circulations blend accessibility with aesthetic continuity, enhancing user flow in dynamic fashion environments.

In practice, the hybrid architecture concept for the fashion hub integrates multiple architectural approaches as outlined in the following scheme.

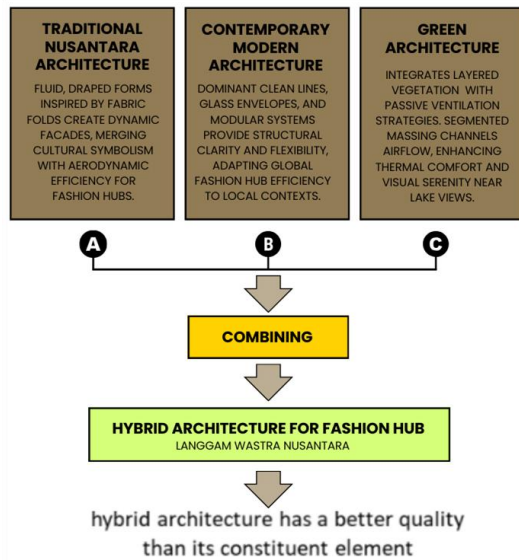


Figure 15 Hybrid Architecture Scheme Used

Beyond its seamless alignment with the core concept, hybrid architecture implementation is essential for the fashion hub to enhance activity efficiency, given the critical need for spatial flexibility to accommodate diverse programming requirements.

PRE-DESIGN RESULTS

The following are the results of the pre-design of A Fashion Hub Utilizing Hybrid Architectural Design in West Jakarta: Langgam Wastra Nusantara

a. Siteplan

In the Fashion Hub Utilizing Hybrid Architectural Design in West Jakarta: Langgam Wastra Nusantara project, the site plan incorporates vehicle circulation, green space allocation, layered vegetation systems, and utility infrastructure to support dynamic fashion activities. Segmented building masses form interwoven circulation cores, strategically positioned to respond to northwest wind patterns, lake orientations, and solar paths. Green open spaces are distributed throughout the site, especially around the building perimeter.



Figure 16 Siteplan

b. Situation

The design harmoniously integrates dynamic batik elements within the site's landscape. Building massing is segmented into five primary volumes, symbolizing Indonesia's five major islands: Sumatra, Java, Kalimantan, Sulawesi, and Papua. Each volume serves distinct functions yet maintains visual and circulatory connectivity through floor patterns, reflecting Indonesia's archipelagic unity amid diversity.



Figure 17 Situation

c. Area View

The building facade features a secondary skin crafted from ulin wood, a tropical climate-resilient timber ideal for sustainable durability. This layered screen regulates light penetration and natural ventilation at openings while delivering distinctive Nusantara aesthetic, evoking woven wastra motifs through natural grain patterns and texture. The design harmonizes environmental performance with cultural symbolism, enhancing the hybrid architectural identity of this West Jakarta fashion hub.



Figure 18 View from North Side

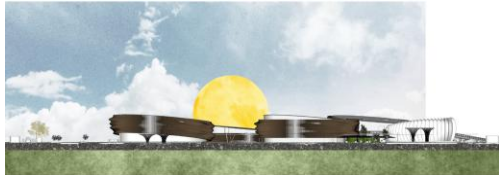


Figure 19 View from South Side

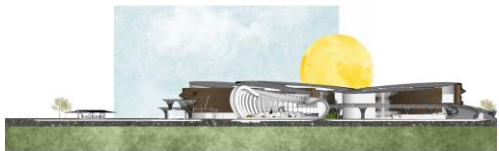


Figure 20 View from East Side

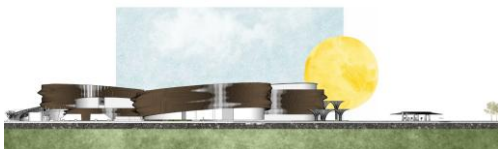


Figure 21 View from West Side

d. Floorplan

The Langgam Wastra Nusantara fashion center comprises five distinct building masses, each featuring unique floor plans and internal circulation patterns tailored to specific functions. The front volume serves as an open-air entertainment pavilion, while the two middle structures house commercial retail for fashion apparel in one building and an indoor exhibition gallery and main fashion stage in the other. One of the rear buildings serves as a leasable creative workspace, housing a sewing lab, fabrication area, and photography studio, while the rearmost building operates as administrative offices. The following blueprint floor plan illustrates the configuration of these strategic masses.

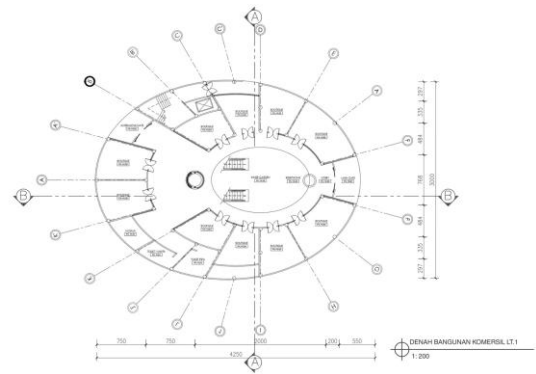


Figure 22 1st Floorplan of Commercial Building

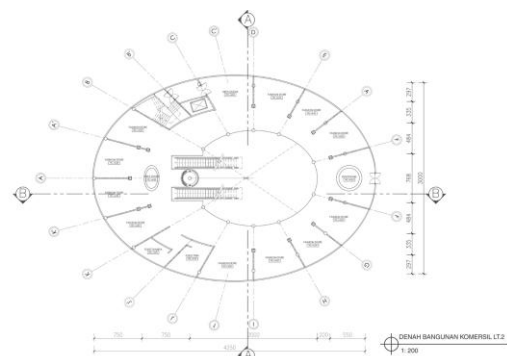


Figure 23 2nd Floorplan of Commercial Building

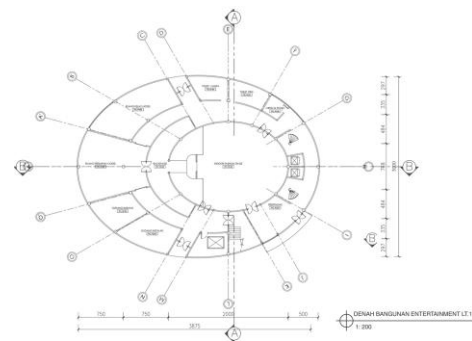


Figure 24 1st Floorplan of Entertainment Building

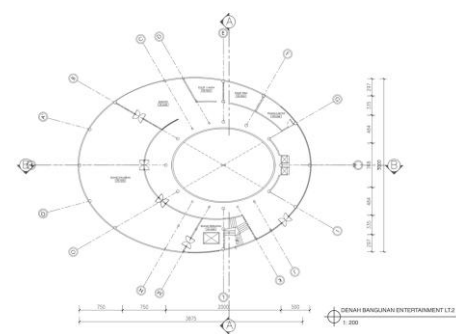


Figure 25 2nd Floorplan of Entertainment Building

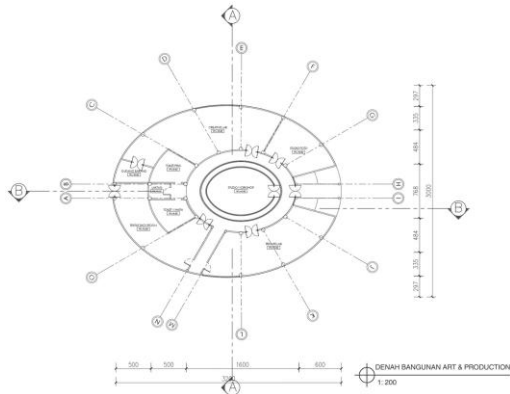


Figure 26 1st Floorplan of Art & Production Building

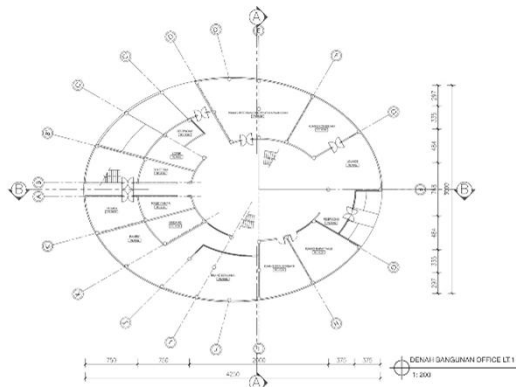


Figure 27 1st Floorplan of Office Building

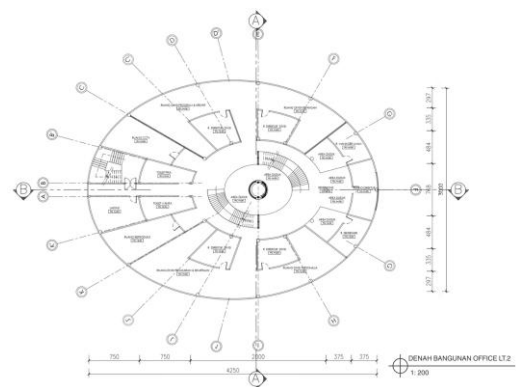


Figure 28 2nd Floorplan of Office Building

e. Exterior Perspective

The exterior areas of Langgam Wastra Nusantara showcase fluid, aerodynamic public spaces, including gardens, water features, a publicly accessible outdoor fashion stage, amphitheater, winding pedestrian paths, ramp bridges linking site buildings, and lake-facing relaxation zones prominently positioned at the front and sides. The rear zone

accommodates operational and service functions such as parking, with vegetated buffers and water elements ensuring seamless yet controlled access.



Figure 29 Perspective Exterior 1



Figure 30 Perspective Exterior 2



Figure 31 Perspective Exterior 3



Figure 32 Perspective Exterior 4



Figure 33 Perspective Exterior 5



Figure 34 Perspective Exterior 6



Figure 35 Entrance



Figure 36 Fashion Stage Outdoor



Figure 37 Parking Area

f. Interior Perspective

The main runway stage serves as the primary venue for wastra collection presentations and fashion shows. Its layout and seating areas feature flexible configurations to accommodate diverse stage types while ensuring optimal visibility from all viewing angles. With a maximum capacity of approximately 150–200 spectators, the stage connects directly to backstage and model preparation areas, facilitating seamless circulation and event operations.



Figure 38 Fashion Stage Indoor

The Creative Lab serves as a flagship facility within the Langgam Wastra Nusantara Fashion Hub. Functioning as an open creativity hub with rentable collaborative workshops or membership access, it supports fashion design processes and Nusantara textile prototyping through modular amenities including workstations, industrial sewing machines, and discussion areas.



Figure 39 Workingspace area

The workspace area integrates directly with premium textile display zones, enabling visitors to purchase high-quality fabrics on-site for immediate fashion production needs. This creates a seamless flow from Nusantara wastra inspiration to direct fabrication.



Figure 40 Textile Showroom

The exhibition interior features spacious, flowing galleries with modular podiums showcasing draped textiles under soft, diffused lighting that accentuates fabric textures without glare. Polished marble floors and curved walls guide visitors through flexible zones.



Figure 41 Exhibition Hall

The interior ambiance of the Langgam Wastra Nusantara fashion hub exudes warmth while subtly showcasing cultural essence through understated elements. This restrained approach creates an exclusive atmosphere tailored for discerning visitors, elevating their experience beyond conventional fashion spaces.

CONCLUSION

The design of a Fashion Hub based on Hybrid Architecture in West Jakarta: Langgam Wastra Nusantara serves as a strategic response to the need for collaborative space and an inclusive, sustainable, and adaptive center for the national fashion creative industry. Through a hybrid architectural approach, this building integrates commercial, educational, and cultural functions within a unified, flexible spatial framework. This concept not only accommodates the dynamics of the modern fashion business but also instills local values, particularly the rich heritage of Nusantara wastra to strengthen Indonesia's cultural identity on the global stage.

The design plan for the Fashion Hub: Langgam Wastra Nusantara is located on Sunset Avenue Road, RW 8, within the Citra Garden City 8 area,

Pegadungan Subdistrict, Kalideres District, West Jakarta Administrative City, occupying a site area of 25,000 m² or 2.5 hectares.

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