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REDESIGN OF PANTI WILASA CITARUM CLASS C GENERAL HOSPITAL IN SEMARANG CITY

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Abstract. The Inpatient Installation (IRI) is one of the essential basic medical services that must be provided in Class C General Hospitals, in accordance with the policies of the Ministry of Health of the Republic of Indonesia. However, many inpatient facilities still do not meet the applicable regulations, including the Minister of Health's Regulation, Standard Inpatient Care Policies, and local regulations. Redesign of Panti Wilasa Citarum Class C General Hospital in Semarang City, addresses the urgency for spatial and functional improvements aligned with national healthcare standards. This project focuses on revamping the Inpatient Department (IRI), which currently suffers from over-congested building masses, inadequate green space, and poor natural lighting. The redesign adopts a Contextual Architecture approach to integrate environmental responsiveness, regulation compliance, and user-centric healing environments. Methodologies include spatial and regulation analysis, site observation, and benchmarking of successful hospital projects. The outcome is a masterplan and architectural design that enhances circulation efficiency, supports health services, and introduces passive design strategies for thermal comfort. The project not only improves the spatial layout of the inpatient facility but also contributes to better healthcare quality and aligns with local urban planning regulations.

Keywords: *Hospital Redesign, Contextual Architecture, Inpatient Facility, Class C Hospital, Healthcare Architecture.*

INTRODUCTION

The need for quality healthcare infrastructure is pressing in urban centers like Semarang. As outlined in national policies such as Permenkes No. 40 Tahun 2022 and the Standard Inpatient Care Guidelines (KRIS), hospitals must ensure safe, accessible, and comfortable spaces for both patients and staff. Panti Wilasa Citarum Hospital, despite its strategic location and

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long-standing service, faces challenges including overbuilt massing, insufficient parking, and lack of daylight and ventilation in several functional zones.

To respond, this redesign proposal focuses on the Inpatient Department (IRI) as a pilot intervention, applying Contextual Architecture as a design strategy. This approach ensures responsiveness to site conditions, urban fabric, and environmental factors while upgrading the hospital's compliance with national healthcare infrastructure standards.

METHODS

The study employs a combination of:

- Descriptive Analysis: Reviewing health infrastructure standards, especially for Class C hospitals.
- Field Observation: Analyzing spatial issues, circulation, accessibility, and microclimate conditions at the hospital site.
- Comparative Study: Referencing redesign strategies from similar hospitals like RSUD Sleman and RS Panti Waluyo Surakarta.

These methods inform a comprehensive and feasible redesign solution that is rooted in both data and context.

THEORETICAL FRAMEWORK

Hospital Design Standards: Based on Permenkes No. 3 Tahun 2020, a Class C hospital must provide at least four basic specialist services.

Contextual Architecture: A design philosophy that emphasizes harmony with surrounding physical, social, and cultural contexts (Norberg-Schulz, 1980).

KRIS (Standard Inpatient Care): Provides principles for equalized, safe, and efficient inpatient room design under the National Health Insurance (JKN) system.

SITE DATA

Based on the spatial planning provisions of Semarang City Regional Regulation Number 14 of 2011, data was obtained regarding the provisions regarding the existing conditions of the Panti Wilasa Citarum Hospital as follows.

- Location : Jl. Citarum No. 98, Mtahuarjo, East Semarang District, Semarang City, Central Java 50121
- Planning Area : ±20,984 m^2
- Basic Building Coefficient : max, 60%
- Building Floor Coefficient : max, 2.4
- Building Height : max, 4 floors
- Road Equivalence Line (GSB): 30/15-17.6(S)/20/7-10/4-7/4-15/7
  a. Citarum Road/GSB: 30/15 (m)
  b. Ciliwung Raya Road/GSB: 15/7 (m)
  c. North Citarum Road/GSB: 7/4 (m)
  d. Ciliwung IX Road/GSB: 10/4 (m)
  e. Citandui Raya I Road/GSB: 20/7 (m)
- Basic Green Coefficient : min, 20%

Figure 1. Site

DESIGN CONCEPT

Functional Zoning:

- Public Access: Waiting areas, lobbies, and administrative counters.
- Semi-Private: Patient rooms categorized into Class 3, 2, 1, VIP, and Isolation.
- Private: Staff zones, control rooms, and support functions.

Contextual Strategy:

- Microclimate Optimization: Aligning building orientation with prevailing

wind and sun paths for cross-ventilation and daylighting.
- Material Selection: Use of lightweight concrete, sun-shading devices, vertical gardens, and reflective surfaces to reduce heat gain.
- Urban Integration: Establishing visual and physical connectivity with IRJ and IGD buildings.

Environmental Response:
- Natural Lighting: Maximized through light wells, clerestories, and expanded window openings.
- Natural Ventilation: Implementing double-loaded corridor alternatives and courtyards to facilitate airflow.
- Landscape Strategy: Introducing therapeutic gardens and green rooftops to enhance healing environments.

PRE-DESIGN RESULT
- Masterplan: Realignment of building mass to create open spaces and improve circulation.
- Floor Plans: Modular design for future expansion and flexibility.
- Elevations and Sections: Depicting sun-shading, passive cooling strategies, and landscape integration.
- Utility System: Integration of medical gas, clean water, black and grey water treatment, fire protection, and vertical mobility systems (ramps, lifts), as well as other utilities.

Blockplan

The redesigned inpatient unit is located within the Panti Wilasa Citarum Hospital complex. Therefore, arrangements have been made to align circulation with the surrounding buildings.

Figure 2. Blockplan

Siteplan

The redesign of Panti Wilasa Citarum Hospital includes zoning, providing several access points to meet the hospital's needs, especially in the Inpatient Installation.

Figure 3. Siteplan

Floorplan

The redesigned inpatient unit consists of four floors with distinct functions. The first floor houses general management and support facilities. The second through fourth floors are the primary inpatient facilities, housing inpatient rooms, nurses' quarters, doctors' rooms, and consultation rooms.

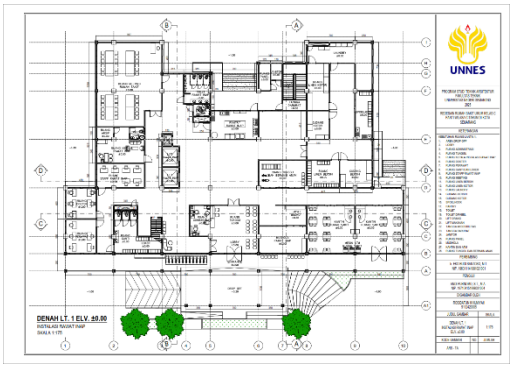

Figure 4. 1st Floor Plan Main Bulding

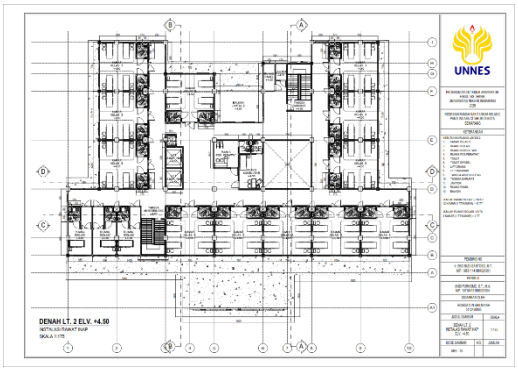

Figure 5. 2nd Floor Plan Main Building

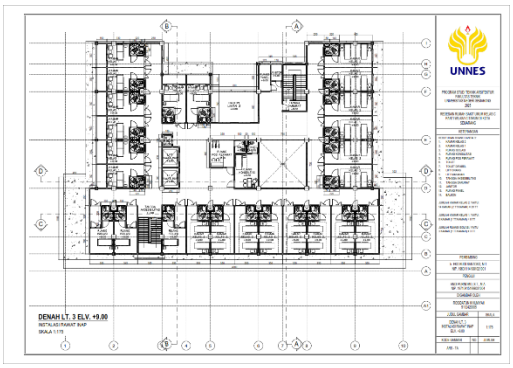

Figure 6. 3nd Floor Plan Main Building

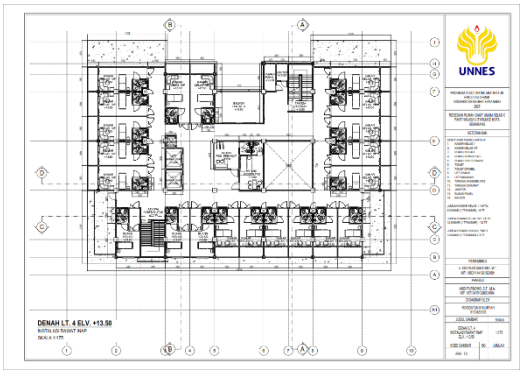

Figure 7. 4th Floor Plan Main Building

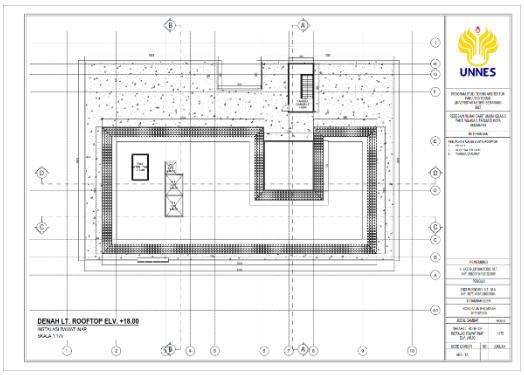

Figure 8. Rooftop Floor Plan Main Building

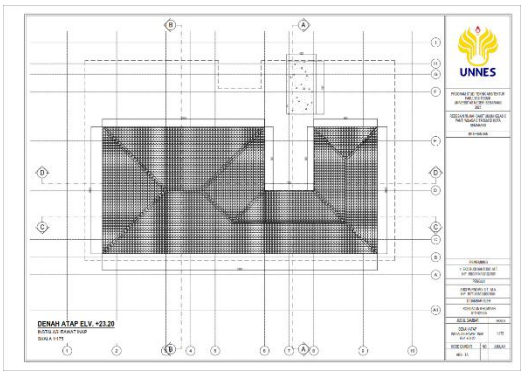

Figure 9. Roof Plan Main Building

Elevation

A built-up view shows the overall appearance of an area, including all buildings within it and the surrounding area. This view is shown from four directions: Front, Right Side, Left Side, and Rear.

Figure 10. Area View

Figure 11. Front Elevation

Figure 12. Right Side Elevation

Figure 13. Left Side Elevation

Figure 14. Back Elevation

Section

Building sections are made to find out the details of the building, both the components that make up the building and the activities that take place inside the building.

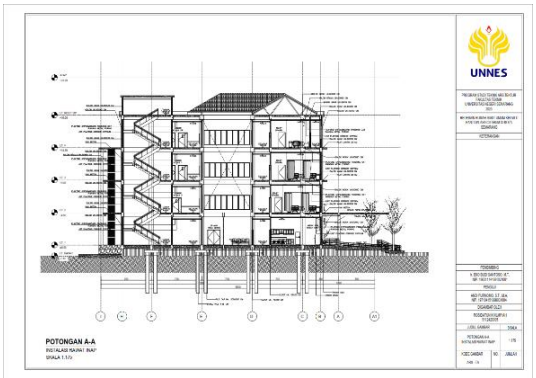

Figure 15. A-A Section

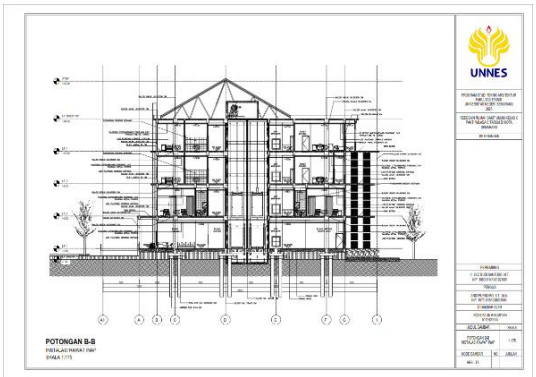

Figure 16. B-B Section

Figure 17. C-C Section

Figure 18. D-D Section

Exterior View

Figure 19. Exterior View

Interior View

Figure 20. Interior View 1

Figure 21. Interior View 2

CONCLUSION

This redesign offers a comprehensive solution to the functional, environmental, and regulatory challenges facing Panti Wilasa Citarum Hospital, particularly in the inpatient unit. Through the application of Contextual Architecture, the new design strengthens hospital performance, promotes healing, and aligns with Indonesia's healthcare transformation agenda. Future implementations could expand this concept to other hospital units.

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