

Architectural Layout for a Three-Story Dormitory Integrating a Rainwater Harvesting Infrastructure

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Abstract: *Residing within a college dormitory entails convenient strolls to classes, easy access to friends just down the corridor, and an immersion in the vibrant campus social milieu. The paper emphasizes the efficacy of the building's structural design in terms of robustness and durability, as well as how the building's aesthetics can hold a competitive edge on a global scale, all while adhering to the safety standards outlined in the building regulations of the Philippines. The design of the dormitory, complete with a rainwater harvesting system, encompasses various stages. These include the collection of data to establish the project's foundation, the creation of an architectural design to conceptualize the project, structural design and analysis to ascertain the building's strength and load-bearing capacity, electrical design to outline lighting and power plans, plumbing design to organize water distribution and determine suitable pipe sizes, a comprehensive work program detailing construction timelines and schedules, and cost estimates to gauge labor, equipment, and material expenses. The project's design, validated through tools like structural design software, adhered to the Philippines' National Building Code and National Structural Code, meeting all requirements without encountering failure or errors. The building's prerequisites underwent meticulous evaluation and verification. Consequently, it is implied that the project holds practical value and is both feasible and worthwhile.*

Keywords: architectural, dormitory, dome, rainwater, harvesting, infrastructure

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