



GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

IT 2113 Project Management

GROUP NO: 07

KDU Rector Chalet Building

BUILDING CONSTRUCTION PROJECT REPORT

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1. Introduction to the project and Company

1.1 Project Title

Construction of two storied rector chalet building at KDU southern campus – Sooriyawewa

1.2 Project Introduction,

The project is "Rector Chalet Building at KDU Southern Campus" located in Sooriyawewa, Sri Lanka. This report outlines the key details, objectives, and requirements of this construction project.

The main objective of this project is to construct a fully furnished chalet to serve as the official residence for the Rector of the Southern Campus of the General Sir John Kotelawala Defence University (KDU). This undertaking reflects our commitment to providing a comfortable and functional living space for the campus leader, ensuring their well-being and convenience in fulfilling their duties.

Located within the serene surroundings of the KDU Southern Campus in Sooriyawewa, this project holds great significance in enhancing the campus infrastructure. The chalet will not only serve as a residence but also as a representation of the university's dedication to its leadership and the overall development of the campus.

As we delve into the details of this construction project, we will explore the planning, design, execution, and management aspects that contribute to the successful realization of this important endeavour. This report will provide a comprehensive overview, ensuring that all aspects of the "Rector Chalet Building at KDU Southern Campus" are thoroughly documented and understood.

1.3 Company Introduction,

The construction of the "Rector Chalet Building at KDU Southern Campus" is being carried out by the Sri Lanka Navy Project Office, a division specializing in construction projects within the General Sir John Kotelawala Defence University Southern Campus (KDUSC).

The Sri Lanka Navy Project Office operates in the construction and development sector of the university, mainly focusing on campus. It has a history closely linked to the growth and modernization of KDUSC, contributing significantly to its infrastructure development. This partnership reflects the government's commitment to enhancing its developments. The Sri Lanka Navy Project Office brings extensive experience and a deep understanding of KDUSC's unique needs to the "Rector Chalet Building" project.

2. Methods used for collecting information.

Our group is currently engaged in a project management endeavour, specifically focused on creating a project report. To achieve this, we have chosen a construction project as our subject matter. We have meticulously gathered pertinent data for the report through various data gathering methods.

To compile comprehensive data for our project report, we have arranged various data gathering methodology. Our approach involves engaging with a range of stakeholders, architects, and contractors. Through collaborative Interviews and discussion with these parties, we have diligently collected project requirements and gained insight into their expectations, ensuring a thorough understanding of the project's objectives.

Additionally, we've had site meetings to learn about important project details like logistics, safety, and scheduling. These meetings have given us essential practical information, which helps us make a well-rounded assessment. And we collect following information,

- Understand the overall scope of the project.
- Inquire about the project's timeline.
- Budget, cost estimates, and any financial constraints.
- Identify key stakeholders.
- construction methods, materials, and technologies being used.
- Inquire about risk assessments, potential challenges.
- Understand how project progress.
- how changes to the project scope

Moreover, we've carefully looked at existing drawings and documents related to the site or structure. And find out,

- Project's design
- Architectural plans
- Engineering specifications.

This thorough review has given us valuable insights into the project's history and its current condition. These insights are crucial for creating a comprehensive and informed project report.

3. Feasibility Study.

KDU director board do a feasibility study for building a Rector chalet for the university in that we can see below phases. They do that for assess the viability of a proposed Rector chalet building.

3.1 Technical feasibility

The construction of the rector's chalet building at KDU has a very good technical feasibility assessment. KDU offers special benefits in terms of technological resources because it serves as a Ministry of Defence university. It has easy access to the Sri Lanka Navy's skilled labour force, ensuring a knowledgeable staff. The Sri Lanka Army additionally provides the necessary tools and machinery for building, and the three armed services' technical know-how can oversee and guide the project. Collaboration with the Ministry of Defence provides additional technical assistance and knowledge, ensuring high standards and efficient risk reduction. In conclusion, KDU has the ability to effectively finish the construction of the rector's chalet building with the required technical competence and financial resources thanks to its strong ties with and resources inside the Ministry of Defence.

3.2 Legal Feasibility

The legal feasibility of establishing the rector's chalet building at KDU is notably simple and advantageous. Since KDU owns the private land where construction will occur, any zoning concerns or questions about who owns the land are automatically resolved. KDU has control over the land and how it will be used, in accordance with zoning rules and regulations, as the landowner. Additionally, KDU is obligated to follow all applicable building norms and regulations as a recognised institution, and it is completely within its power to get the required permits and licences. In conclusion, given KDU's ownership of the site and dedication to adhering by the norms and regulations governing building construction, the legal feasibility is solid and unencumbered.

3.3 Economic Feasibility

While the project is not intended to produce immediate income, the materials needed for construction are the main cost factor because KDU can easily recruit labour from the Sri Lankan Army and Navy. The cost of building supplies, permits, and any other expenses related to construction are therefore the primary focus of the financial assessment. Economic viability in this context primarily refers to ensuring that the budget allotted is effectively handled and that the project is finished within the budgetary constraints established by KDU. This viewpoint is consistent with the project's goal of providing housing for the rector rather than pursuing financial gains, hence the proposal is regarded as economically feasible within these particular constraints.

3.4 Operational feasibility

Operational feasibility is a crucial component of the evaluation since it is closely associated with the unique organisational demands of the university in the context of the construction of the rector's chalet at KDU. The main goal of this project is to build suitable quarters for the rector, who is in charge of KDU's newly constructed Southern Campus and is the head of the university. The rector chalet addresses the crucial need to offer the rector convenient on-campus housing, which is not only operationally necessary but also aligns with the practical and administrative demands of managing a growing educational institution, given the special context of a newly developed campus.

3.5 Scheduling feasibility

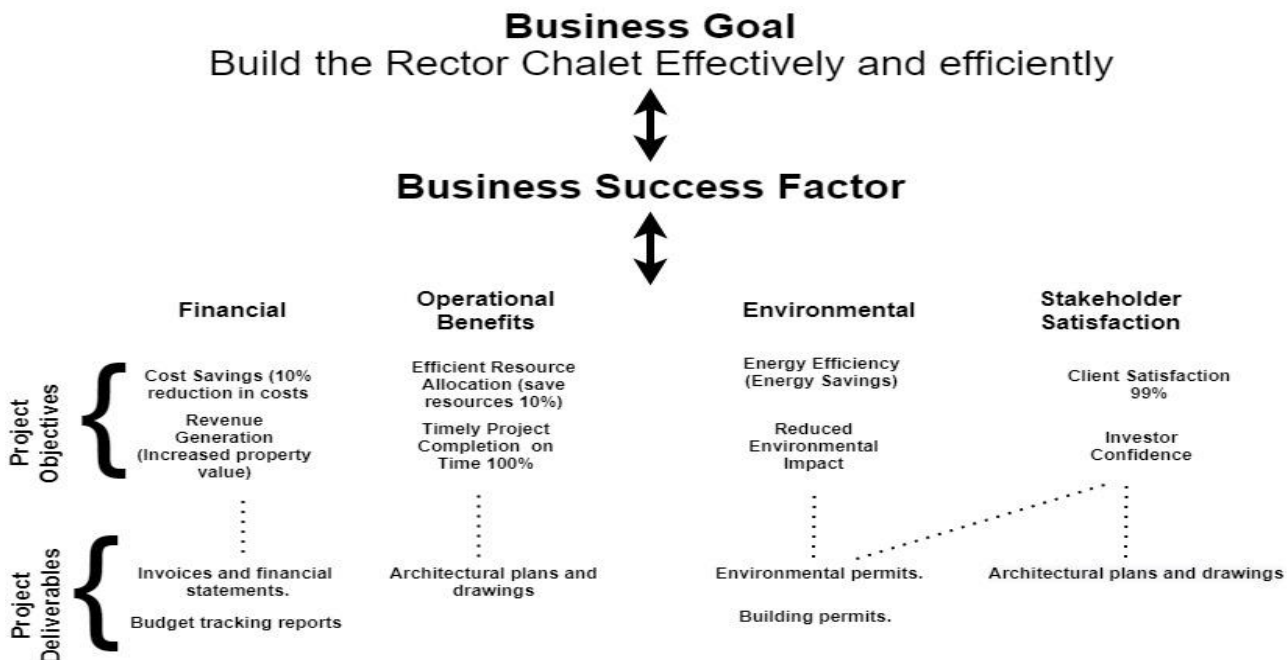
from the beginning of the this project An optimistic prognosis is shown by the scheduling feasibility study for the rector's chalet at KDU. The given period has been found to be adequate for completing each stage of the building project, from site preparation to finishing touches, after thorough planning and analysis. The assessment shows the dedication to seeing that the project is finished on schedule and in accordance with the planned timescale.

It is crucial to meet timelines because any delays in construction could result in higher costs and lost opportunities. However, it has been concluded based on the study that KDU has the ability and resources to stick to the planned timeline, minimising the danger of expensive delays.

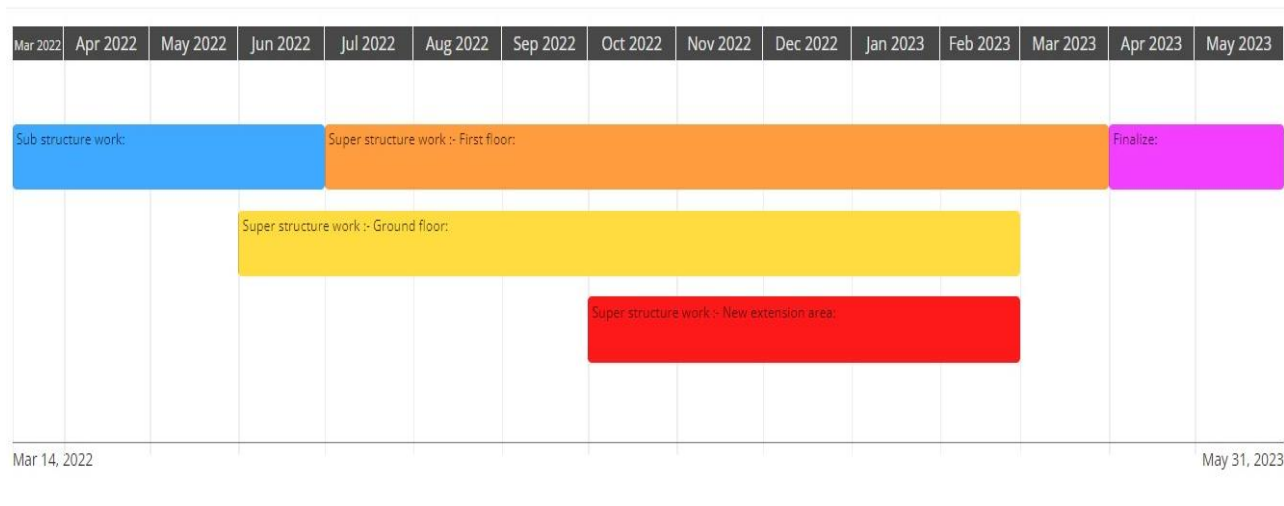
All of these topics would be included in a feasibility study for a building construction project like this. It would determine whether the company possesses the necessary technical know-how, financial resources, and legal criteria for the project. Additionally, it would assess if the structure could accommodate the organization's operational requirements and whether it could be completed on time.

4. Analysis of data and presentations

4.1 Business Goals



4.2 Timeline

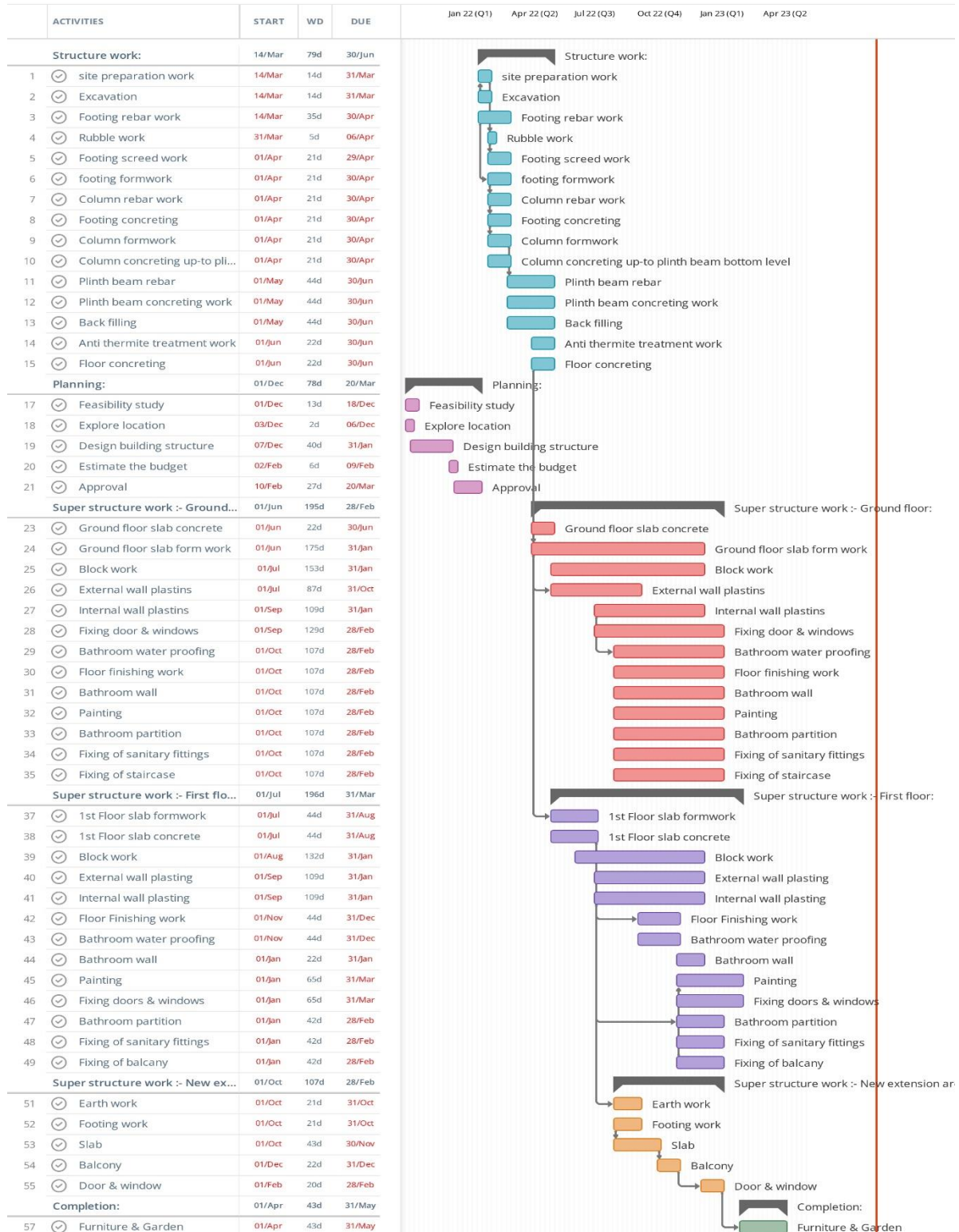


4.3 Gantt chart



Rector Chalet

Read-only view, generated on 11 Oct 2023



4.4 Progress chart

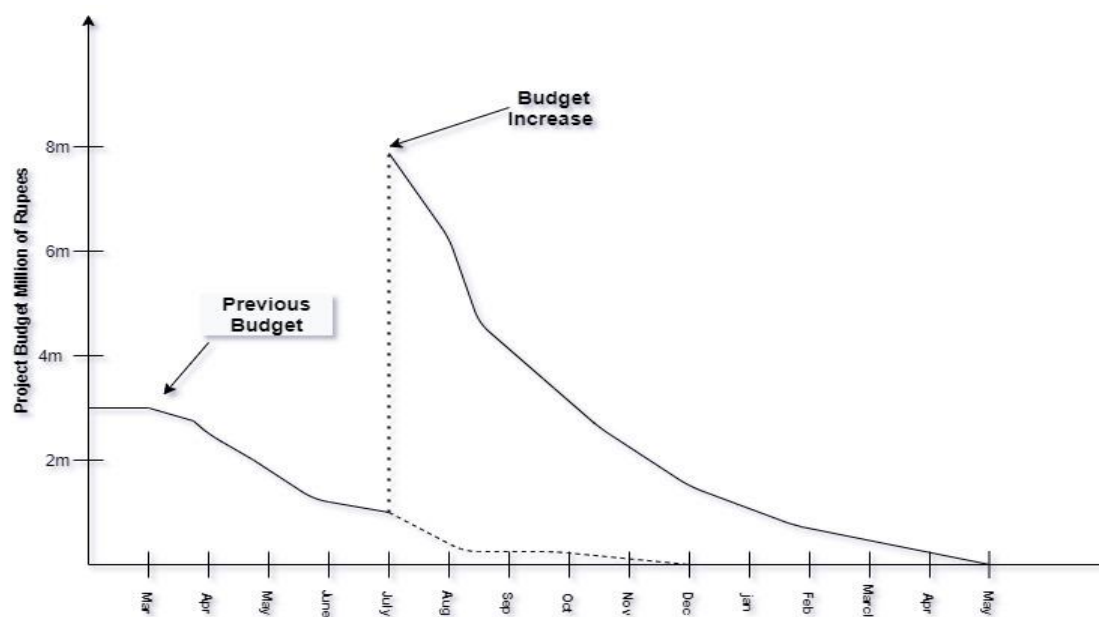


Milestone Progress Rector Chalot

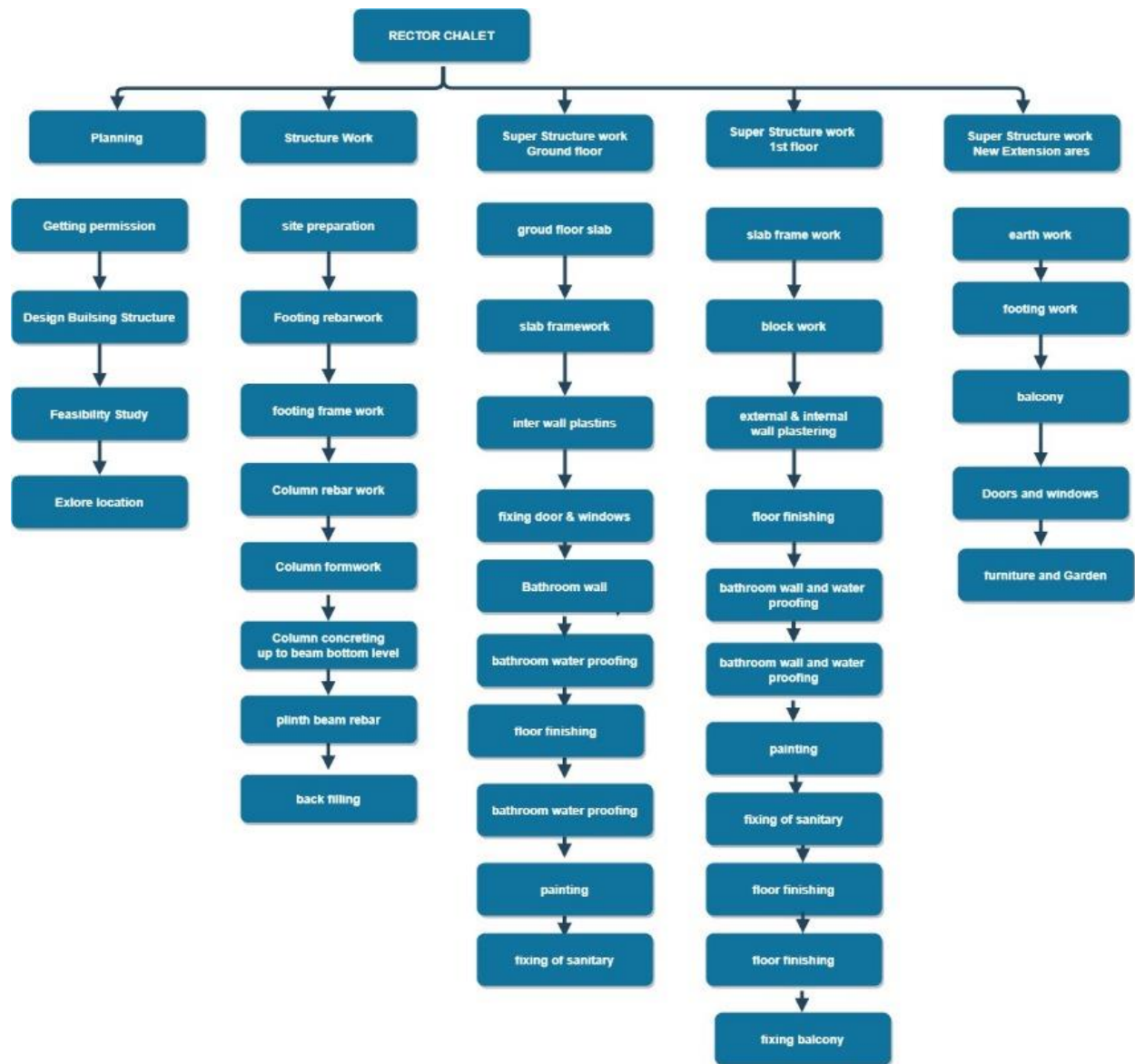
Read-only view, generated on 09 Oct 2023

	ACTIVITIES	ESTIMATED PRO...	ACTUAL PROGR...
2022:		46%	44%
1	✓ March	5%	5%
2	✓ April	21%	21%
3	✓ May	31%	30%
4	✓ June	42%	41%
5	✓ July	48%	48%
6	✓ August	51%	51%
7	✓ September	59%	56%
8	✓ October	60%	58%
9	✓ November	72%	66%
10	✓ December	78%	72%
2023:		95%	94%
12	✓ January	85%	79%
13	✓ February	94%	93%
14	✓ March	100%	99%
15	✓ April	100%	99%
16	✓ May	100%	100%

4.5 The Budget Consumption Chart



4.6 Work Break-down Structure



4.7 Milestone Chart

[illegible]

5. Finding and discussions

5.1 Project plan and execution

Building a completely finished chalet for the Rector of the Southern Campus at KDU (General Sir John Kotelawala Defence University) might have a variety of success criteria. Here are some important success variables to take into account:

1. Clearly state the project's goals. The project's goals, purpose, and scope must all be clearly defined. In this instance, it entails building a fully equipped chalet that adheres to the Rector's unique requirements and tastes.
2. Project Planning Works: Planning a project thoroughly is crucial. This covers elaborate budgets, timetables, and resource allotments. A clear project plan lays the groundwork for achievement.
3. Financial management needs to be done correctly. The chalet can be finished without going over budget thanks to prudent financial management and budgeting.

5.2 Budget and cost

Project cost estimating is the process that considers direct expenses, indirect costs, and other project costs to determine a budget that satisfies the financial commitment required for a project to be successful. This is accomplished by using a cost breakdown structure, which project managers and estimators use to calculate all project expenses.

In our Rector chalet project, the responsible persons for the project cost are GKL Gamage lieutenant (CE) NCR 3697 Civil engineer SL navy, W Alahapperuma BSC(Eng) commander (CE) command civil engineer officer (south).

This report offers a thorough analysis of the project's financial aspects, following the budget and cost projections from the beginning to the present.

Project Overview:

- Project Start Date: 14th March 2022
 - Initial Estimated Cost: Rs. 30.00 million
 - Total Funds Allocated: Rs. 20.00 million
- Revised Estimated Cost (12th June 2022): Rs. 80.00 million
- Actual Date of End: 31st May 2023
- Cumulative Costs at the End:
 - Material Cost: Rs. 79,409,947.37
 - Labor Cost: Rs. 15,946,350.00

Estimated cost, timing, and funding allocations for the project have seen significant changes since its beginning.

As this mentioned above this project has started at the mid of March 2022 and estimates the end date as 30 December 2022. At the beginning of the project, they estimated the initial cost as Rs. 30.00Million. And while progressing the project the estimate cost has been changed for some reasons.

Because of the economic crisis of Sri Lanka in 2022-2023 this estimate cost has been increased. This can rise in a certain year because of a combination of many economic, environmental, and industry-specific factors. The major point is the fuel, so as the high range of price in fuel all other services and materials are increased. This is because the Dollar rate tripled due to the inflation on this time.

5.3 Stakeholders

The people and groups involved in the "Construction of Two-Story Rector Chalet Building at KDU Southern Campus – Sooriyawewa" project are:

- The KDU university, which started the project and will use the chalet.
- The Rector of the Southern Campus, who will live in the chalet.
- The Sri Lanka Navy Project Office, responsible for building the chalet.
- The construction workers and contractors doing the building work.
- Local government and rule-making bodies that make sure everything follows the law.
- Companies supplying materials like cement and steel.
- Agencies checking and caring for the environment around the construction.
- The local community, who might be affected by the construction and need to be heard.
- Architects and designers making the chalet look good and work well.
- People checking that everything is done right and meets the rules.
- A team managing the project's planning, budget, and schedule.
- Government groups keeping an eye on the project if needed.
- Groups giving money for the project if it's not funded by the university.
- These people need to talk and work together to make sure the chalet is built well and everyone's happy with it. Clear roles and rules help this happen smoothly.

5.4 Risk management

Any building project, including the "Rector Chalet Building at KDU Southern Campus," must consider risk management. The project's success depends on identifying possible risks and putting mitigation or management plans into place. Some of the most important project-specific risk management factors are listed below.

i) Financial risk

Cost Overruns: Unexpected expenses may cause the project's costs to go over the set budget. Regular budget tracking and emergency preparation are part of mitigation.

Delays in obtaining money could cause the project's schedule to change. Risk reduction requires having backup funding sources and arranging finance well in advance.

- i. Legal document
- ii. Success factors
- iii. Risk management

ii) Compliance and Regulatory Risks:

Issues with permits: Timelines for projects might be impacted by delays or rejections in acquiring necessary permits and approvals. Early interaction with regulatory bodies and a solid knowledge of local laws are essential to risk mitigation.

Non-compliance: Breaking building codes and regulations can result in penalties and hold up projects. Inspections and compliance checks must be conducted often.

iii) Design and scope risk

Changes in Design: Making frequent changes to the chalet's design can cause delays and financial overruns. To limit revisions after the design is established, risk reduction calls for open communication with the Rector and design experts.

Scope creep: Extending the project's scope past its original boundaries might put a burden on its resources and schedule. It's crucial to have a clear scope declaration and change control procedures.

iv) Risks in construction:

Delays: Unexpected site circumstances, labour disputes, or bad weather can cause delays in building. Contingency preparations for adjusting the schedule are part of risk mitigation.

Problems with quality: Poorly done work or materials can result in more expensive rework. Inspections and quality control procedures aid in reducing this risk.

Accidents on the job site may result in injuries, property damage, and legal ramifications. Training and strict safety procedures are necessary.

v) Environmental dangers

Construction operations may have a negative impact on the environment. Observing environmental laws, putting sustainable practices into effect, and doing impact analyses are all examples of risk reduction.

vi) Purchasing Chain Risks:

Material Shortages: Delays might result from supply chain disruptions. Diversifying suppliers and keeping a reserve of inventory are two steps in the risk mitigation process.

Price Variations: The budget for the project may be impacted by price variations in the construction supplies. Contracts that lock in prices and market trends are examples of risk mitigation.

vii) Regulatory Risks:

Contractual Disputes: Contractual disputes may arise from disagreements between contractors, subcontractors, or suppliers. Contracts with specific terms and processes for resolving disputes are necessary for risk mitigation.

Contractor Performance: It's crucial to make sure that contractors live up to performance standards. This risk can be reduced by regular performance reviews and sanctions for non-compliance.

viii) Communicating Dangers:

Miscommunication: Misunderstandings and delays can result from poor communication among project stakeholders. This danger is reduced with the use of regular meetings, transparent channels of communication, and documentation.

ix) Risks to health and safety:

Accidents and injuries: It is essential to ensure the safety of employees and staff. Hazard assessments, continuous training, and rigorous adherence to safety procedures are all part of risk mitigation.

x) Risks to Stakeholders:

Expectations of the Rector: Unhappiness may result from not meeting the Rector's expectations. This risk is reduced by consistent communication and alignment of expectations.

Community Relations: Protests or legal challenges may result from adverse community reactions to construction activity.

Regarding the "Rector Chalet Building at KDU Southern Campus" project, effective risk management entails identifying these potential hazards, evaluating their impact and likelihood, and putting preventative measures in place to avoid or manage them. To react to changing circumstances and assure project success, regular review and modifications to the risk management plan are necessary.

5.5 Knowledge areas/Tasks

To ensure successful planning, implementation, and completion of the "Rector Chalet Building at KDU Southern Campus" project, numerous knowledge areas and tasks must be completed. The main areas of knowledge and related duties for this construction project are listed below:

Project management is step one.

- Create a thorough project plan.
- Establish a timeframe and project schedule.
- Define the project's goals and success standards.
- Recognize and control project risks.
- Distribute resources wisely.
- Keep track of and manage project progress.

Site selection and evaluation:

- Survey and analyse the location.
- Evaluate the impact on the environment and regulatory adherence.
- Ascertain construction readiness.
- Examine the geography and soil characteristics.

Designing an architectural structure:

- Work with designers and architects to develop ideas for a chalet.
- Make sure the design adheres to the Rector's specifications and preferences.
- Obtain permissions and design approvals.

6. Problems encountered by project team during the project.

Budget overruns, a common problem in construction projects, happen when real project expenses exceed the budgeted amount. This problem is primarily caused by underestimating the project's initial expenditures at the planning stage, where costs for supplies, labour, equipment, permits, and overhead fees might not be properly accounted for. Additionally, as projects advance, client or stakeholder requests for scope adjustments may result in unanticipated costs that were not initially planned. Costs can also increase as a result of unanticipated site circumstances like contaminated soil or concealed infrastructure. The budget may be further strained by economic factors like inflation and shifts in the price of materials and labour during the course of a protracted project.

Construction project delays are typical and can be caused by a variety of things, including adverse weather, delays in receiving government approvals, strikes, problems with the supply chain, and unforeseen site circumstances. The successful completion of a project depends on rigorous planning, backup plans, and open stakeholder communication.

Construction sites in Sri Lanka face difficulties such as contaminated soil, unstable terrain, and seismic worries. Solutions include pricey remediation, redesigning the foundation, and cutting-edge methods like soil stabilisation. It takes flexibility and innovation to stay within budget and deadlines.

An important risk is poor cost management, which can result in delays and budget overruns. The main offenders are frequently ineffective processes, particularly poor expense tracking. Close monitoring of many financial factors, such as supplies, labour, equipment, permits, and unforeseen charges, is crucial to maintaining budgetary restraints. Spending that is out of control is readily caused by neglecting this.

Running out of money, which results in delays and rushed, sometimes unsafe cost-cutting decisions, are just a few problems that can arise from inefficient cost management in building projects. Due to issues with payment, it can also sour the working relationships with suppliers and subcontractors. Construction teams should use exact planning, ongoing spending monitoring, and pro-active financial issue resolution to overcome these obstacles. These procedures guarantee effective resource management, guard against waste, and uphold project deadlines and quality requirements.

Teams working on construction projects must thoroughly consider all potential risks and budget for enough contingency funds in order to reduce this risk. This financial safety net acts as a safety net, assuring the project's continued financial viability in the face of the risks that frequently come with construction activity. Construction projects are better able to endure unforeseen difficulties and retain financial stability over the course of their lifecycles when contingency planning is included in the budgeting process.

Every construction project has project management issues at its core, and these issues are essential to the project's success. The orchestration of activities, resources, and schedules required for effective project management can be challenging at different points throughout the project lifetime. Coordinating multiple teams, ensuring that activities are carried out as planned, and managing the numerous moving elements necessary for successful project delivery are some of these problems.

7. Suggest solutions for those problems.

In Scope changing starting with a thorough initial cost estimate, taking into account all prospective charges, and maintaining precise cost tracking throughout the project are essential steps in preventing budget overruns in construction projects. Strict change order management should be put in place to monitor scope changes and determine their financial impact. Keep an eye on inflation and price changes and take into account a fair contingency allowance within the budget. To ensure alignment with budget goals, stakeholders must communicate openly with one another. In summary, successful techniques to reduce budget overruns include rigorous planning, proactive risk management, and open communication.

The project team must adopt a proactive and well-organized strategy to deal with the difficulties posed by change orders in building projects. Establishing a formally defined change order management process that includes formal request and approval procedures is required to accomplish this. A thorough assessment of each proposed change order's possible effects on the project's scope, schedule, and budget should be conducted. Maintaining open and honest communication with clients or stakeholders is essential to making sure they fully understand the financial and schedule ramifications of these adjustments since transparency is important. In order to track expenses and keep track of the parties involved as well as the reasons for each alteration, it is crucial to thoroughly document all change orders.

A proactive strategy is needed to address inadequate cost management in construction projects. Teams working on projects should put in place strict cost tracking procedures, keep an eye on spending, and manage change orders well. In order to avoid misinterpretations that can result in overspending, open communication between stakeholders is essential. Financial safeguards can be achieved by proactively managing risks and adjusting budgets as necessary. It is also crucial to hire project managers with experience who are adept at cost management. Together, these actions improve cost management, reduce expenditure overages, and guarantee good project outcomes within budgetary restrictions.

In order to avoid budget overruns, accurate cost estimation is crucial in building projects. It is crucial to guarantee thorough cost estimates at the commencement of the project, supported by knowledgeable estimators. As the project develops, it is helpful to periodically evaluate and update the cost forecasts to keep them in line with actual spending. Making educated decisions requires open communication with stakeholders regarding cost projections and anticipated changes. Construction project teams can reduce the risk of budget overruns and improve overall financial stability by emphasising accurate cost estimation.

8. Monthly progress of the project

2022 March – 2023 May

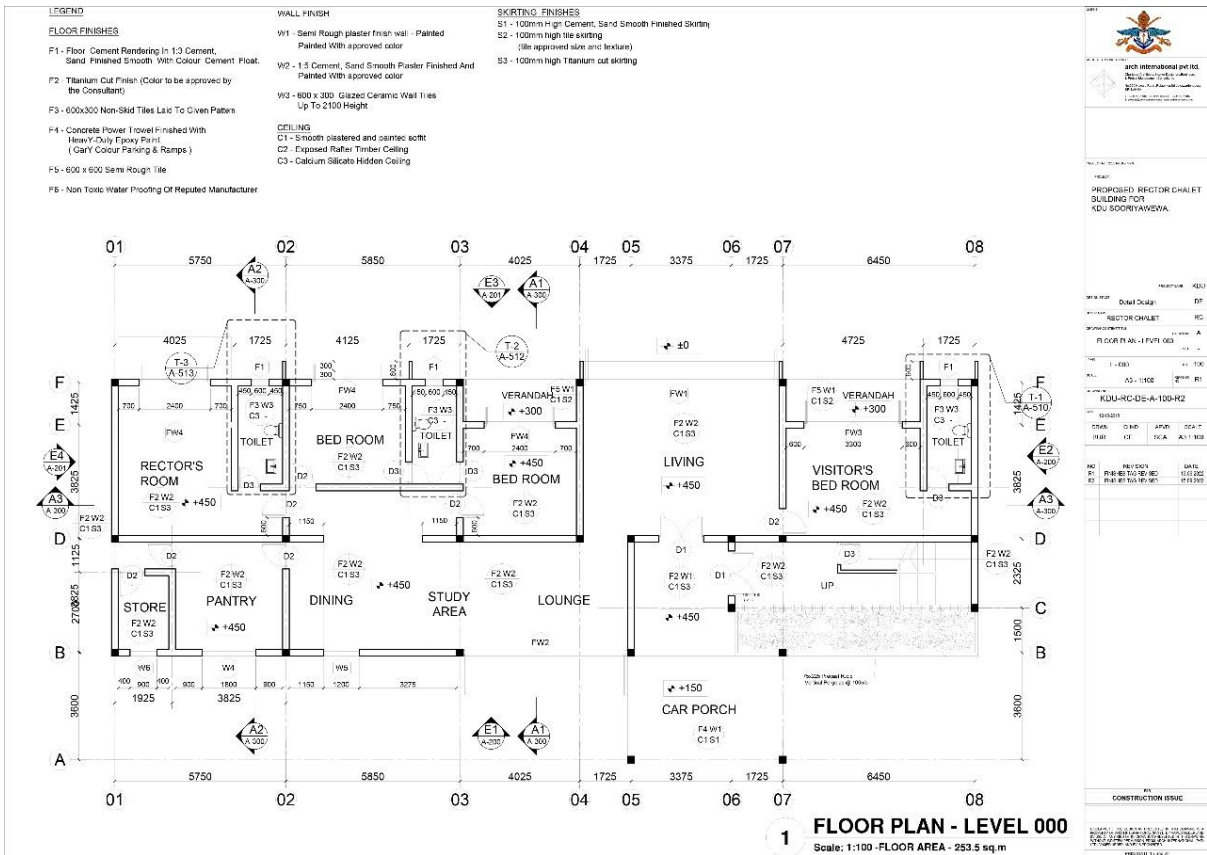




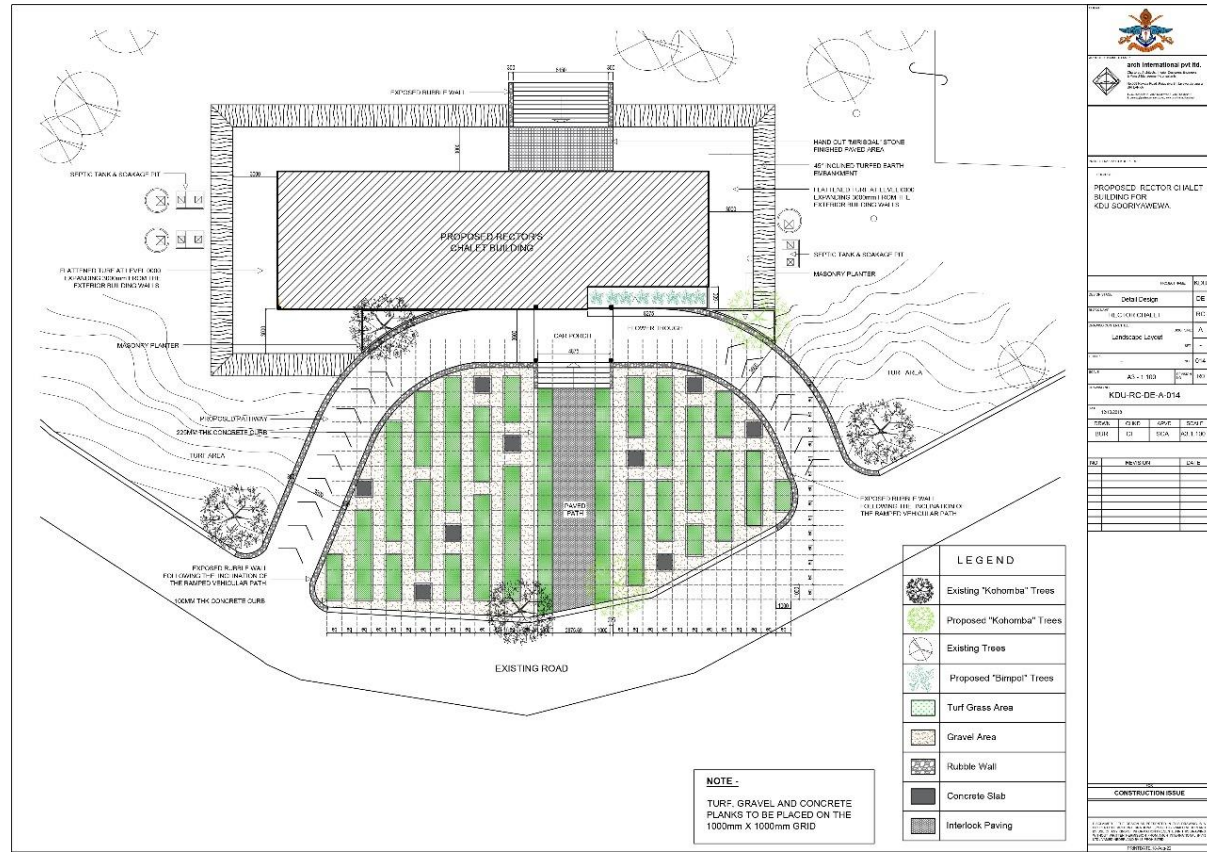


9. Overall Project Design





arch international pvt ltd			
PROPOSED RECTOR CHALET BUILDING FOR KDU SOORIYAWewa			
PROJECT			
PROPOSED RECTOR CHALET BUILDING FOR KDU SOORIYAWewa			
DRAWN BY			
RECTOR CHALET			
REVISION			
KDU-RC-DE-A-100-R2			
DATE			
15/03/2023			
BY			
CONSTRUCTION ISSUE			



arch international pvt ltd			
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