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ANALYSIS OF PROJECT EFFECTIVENESS COMPARISON WITH AND WITHOUT USING COST BUDGET PLAN AND TIME SCHEDULE USING PRECEDENCE DIAGRAM METHOD SCHEDULING

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ABSTRACT

Good project planning can minimize delays, high costs, and technical adjustments. However, the Nusa Guest House project in Banjarbaru by CV Senusa Group was carried out without comprehensive planning and without involving a formal planning consultant, relying only on floor plans and workers' experience. This study aims to evaluate the effectiveness of projects with and without planning by analyzing the Budget Plan and schedule using the Precedence Diagramming Method (PDM). The compiled budget shows a cost of Rp 2,918,133,500, while the owner allocated Rp 4,406,000,000, resulting in a difference of Rp 1,487,866,500 (excluding VAT). After adding 12% VAT, the difference becomes Rp 1,666,410,480. The project runs for 564 days, from January 2, 2023 to September 12, 2024, with 85% progress achieved. The study concludes that lack of comprehensive planning increases the risk of inefficiency in cost and time.

Keywords: Project Planning, Budget Plan, Time Schedule, PDM

1. INTRODUCTION

Good project planning can minimize any delays and costs that tend to be higher as well as adjustments to project needs, compared to projects that do not have planning from the beginning of development. Of course, in the planning process, field surveys are needed and must follow the guidelines set by the authorities, such as in the design of the Cost Budget Plan which is regulated in Permen PUPR 8 2023 AHSP and Circular Letter Number 73 / SE / DK / 2023 of the Cipta Karya Division. The Nusa Guest House Banjarbaru project of CV Senusa Group did not begin with thorough planning only at the working drawing stage, this project also did not meet the guidelines set by the authorities. This project was carried out without formally involving a planning consultant and only relied on plan work drawings as the main reference. Therefore, this research focuses on RAB planning and Project Scheduling by following the SNI guidelines that have been set, this project is located on Taman Palem Asri Street, Banjarbaru Utara District, Banjarbaru City, South Kalimantan, this guest house is built on an area of 8 meters x 19 meters with a three-story structure and a concrete wall fenceat the front. The absence of

a structured plan from the beginning caused potential obstacles in controlling costs, time, and technical adjustments in the field.

CV Senusa Group as the owner of Nusa Guest House Banjarbaru only involves the drafter of the working drawings of the Nusa Guest House Banjarbaru project, but does not involve a third party (Planner Consultant) in the RAB and Time Schedule planning process, and the CV Senusa Group only has a working drawing of the floor plan design for each floor as their reference in the construction, in the construction process the CV Senusa Group only utilizes the experience of builders and follows the Working Drawings in the form of floor plans on each floor, the wages of builders are paid per day of Rp. 150,000.00 and the entire workforce can be masons, wood, iron and others per person. In situations like this, the effectiveness of project planning becomes an important component that can affect the success and efficiency of the project. The purpose of this study is to evaluate how effective the comparison between projects that use planning and projects that do not use planning is, with particular emphasis on how this impacts cost and time to completion.

This analysis will use a quantitative approach to compare the performance of two groups of projects, one group that applies thorough planning and the other group that does not. Measurements of effectiveness will be made based on indicators of actual completion time and cost compared to the original plan. Thus, the results of this study are expected to provide insight for stakeholders in the management of construction projects in the future.

This research will discuss the Comparative Effectiveness Analysis of Projects With and Without Using Planning in the Nusa Guest House Banjarbaru Development Project to find out and compare the Cost Budget Plan, Time Schedule and this research also uses PDM (Precendence Diagramming Method) to determine the critical path in the Nusa Guest House Banjarbaru project.

2. THEORITICAL STUDY

Cost Budget Plan

According to Graciella (2024), the project cost budget plan is a calculation of the total budget for a building and wages, as well as other costs associated with the implementation of the project. Another definition states that project RAB is a process of

calculating the volume of work, the price of various materials and work that occurs in a construction. From the two definitions above, it can be concluded that project RAB is a calculation of the amount of costs required in a construction project consisting of material costs, labor wages, and other costs associated with the project based on the calculation of the volume of work that has been done previously. The analysis of the unit price of labor wages contains two elements, namely:

1. The unit price of labor wages, is the wage given to construction labor per day forlabor services performed in accordance with their skills, and

2. The labor coefficient, which is a coefficient that shows the labor requirements for each position. Meanwhile, the analysis of the unit price of tool rental is basically calculating the number of tools used and the amount of tool rental costs, to complete per unit of construction work.

S Curve

Suparno (2015), The S curve can show project progress based on activities, time and work weight represented as a cumulative percentage of all project activities. Visualization of the S curve can provide information about the progress of the project by comparing it to the plan schedule. From this, it is known whether there is a delay or acceleration of the project schedule. This indication can be the initial information to take corrective action in the schedule control process. But the information is not detailed and is only limited to assessing project progress. Further improvements can use other methods in combination, for example the block chart method or network planning by updating the resources and time for each activity.

To create an S curve, the sum of the cumulative percentage weights of each activity in a period between project durations is plotted against the vertical axis so that when the results are connected by a line, they form an S curve.

This shape occurs because the volume of activities at the beginning is usually small, then in the middle it increases by a considerable amount, then at the end of the project the volume of activities decreases again.

To determine the weight of work, the approach can be a percentage calculation based on the cost per work item/activity divided by the total budget or based on the planned volume of activities to the total volume of activities.

PDM (*Precedence Diagram Method*)

According to Putra (2022) cited from Napsiyana (2007). Precedence Diagram Method (PDM) is a network of work that is generally rectangular, while the arrows are only as a guide to the activities concerned. PDM has a simpler network depiction than CPM and can do a job without waiting for the predecessor activity. In general, PDM consists of 2 parts, namely: Forward analysis to determine Earliest Start (ES) and Earliest Finish (EF); Backward analysis to determine Latest Start (LS) and Latest Finish (LF).

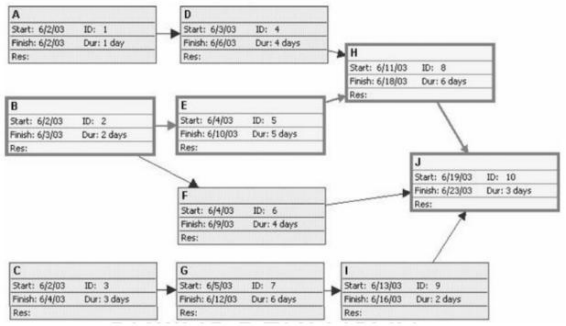


Figure 1 Example of PDM Diagram

According to Putra (2022) quoted from Soeharto (1995). Precedence Diagram Method (PDM) used is Activity On Node (AON) where the arrow only states the relationship between activities. The activities are written in the form of nodes in the form of rectangular boxes, while the arrows are only as a guide to the activities concerned. Thus dummy is not required.

3. METHOD

Research Location

This research was conducted on the Nusa Guest House Banjarbaru Construction Project located on Jalan Taman Palem Asri, Banjarbaru Utara Subdistrict, Banjarbaru City, South Kalimantan, as shown in Figure 2.

Figure 2 Location Point Picture

Data Collection

This research uses primary and secondary data. Primary data was obtained through interviews with Muhammad Yogi Chafoza (owner) and Sugeng (handyman), which included: the number of workers as many as 10 people, the total project cost of Rp 4,406,000,000.00, the structural design includes Poer Plate 100/40/40, Column 25/25 D12/D10, Column 20/10 D10/D8, Sloof 40/20 D12/D10, Beam 40/20 D12/D10, Child beam 20/10 D10/D8, Floor plate 14 cm thick D13, and Stairs 30/25 D8, D10, Ø10, and the schedule for the start of project progress on January 2, 2023. Secondary data was obtained from the floor plan drawings of each floor used as a reference for the preparation of the Cost Budget Plan. Structural dimensions that are not listed are completed through literature studies and relevant journals that are suitable for the Nusa Guest House Banjarbaru project.

Data Processing

Primary and secondary data that have been collected are then processed to achieve the objectives and answer the formulation in this study. Data processing is carried out through a series of stages starting with the creation of a Work Breakdown Structure (WBS) to identify and categorize all work components. After that, the calculation of the volume of work on each item was carried out, which became the basis for designing the Analysis of Work Unit Price (AHSP). The results of the AHSP are used in the preparation of the Cost Budget Plan (RAB). Furthermore, the calculation of work duration is based on productivity and available resources, which is then used as the basis for preparing the project time schedule. The final stage of this data processing is the identification of the project's critical path using the Precedence Diagram Method (PDM) to determine the works that determine the total duration of the project as a whole.

4. RESULT AND DISCUSSION

Cost Budget Plan

In this study, it is necessary to calculate the Cost Budget Plan as a further step to determine the cost of each job that will be required from the project, after the volume of work and analysis of the unit price of work has been calculated.

Table 1 Cost Recapitulation

Item Pekerjaan	Jumlah Biaya
Ground Floor	
Preparatory Work	Rp 22,798,002
Excavation, Soil, Foundation and Substructure Work	Rp 266,069,998
Reinforced Concrete Work	Rp 232,581,872
Total	**Rp 521,449,871**
Floor 2	
Reinforced Concrete Work	Rp 233,669,273
Total	**Rp 233,669,273**
3rd Floor	
Reinforced Concrete Work	Rp 127,943,541
Wall, Floor and Ceiling Work	Rp 926,405,649
Door, Window, Ventilation, and Accessories Work	Rp 332,480,113
Electrical and Sanitation Works	Rp 261,602,047
Sanitation Work	Rp 103,289,272
Yard and Painting Work	Rp 123,011,921
Exterior Work	Rp 288,281,813
Total	**Rp 2,163,014,356**
Total Cost	**Rp 2,918,133,500**
12% VAT	**Rp 350,176,020**
Total Cost+12% VAT	**Rp 3,268,309,520**

PDM (*Precedence Diagram Method*)

In this research, the Precedence Diagram Method (PDM) is used to analyze the interrelationships between jobs on the project and to determine the critical path that serves as the basis for scheduling the project more efficiently. PDM was chosen because of its ability to represent dependency relationships between jobs, such as Finish to Start (FS), Start to Start (SS), Finish to Finish (FF), and Start to Finish (SF), making it easier to manage complex construction work sequences.

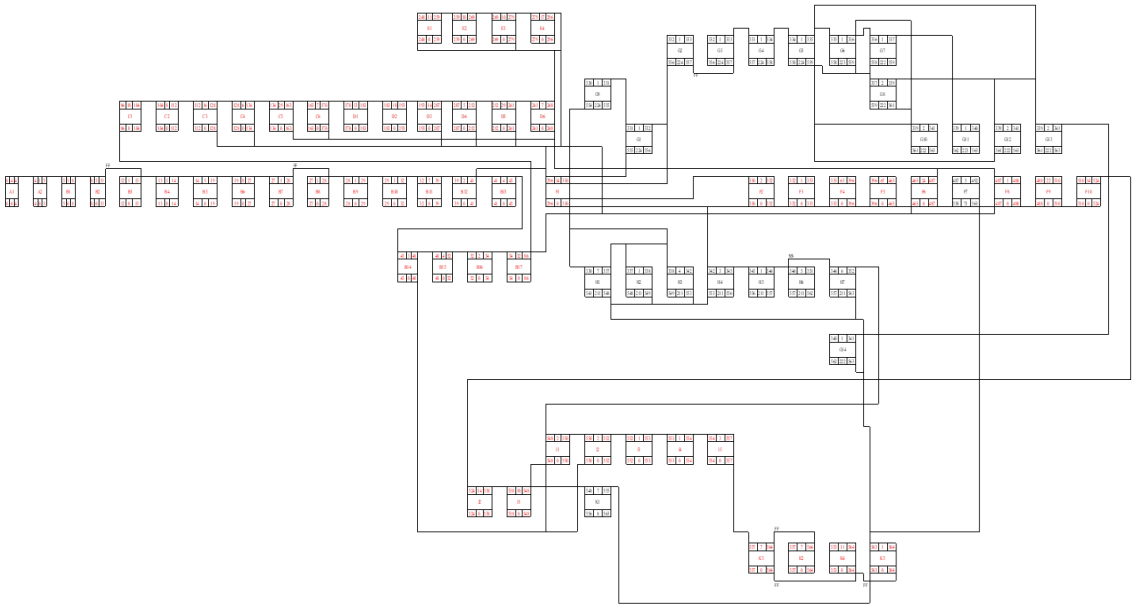
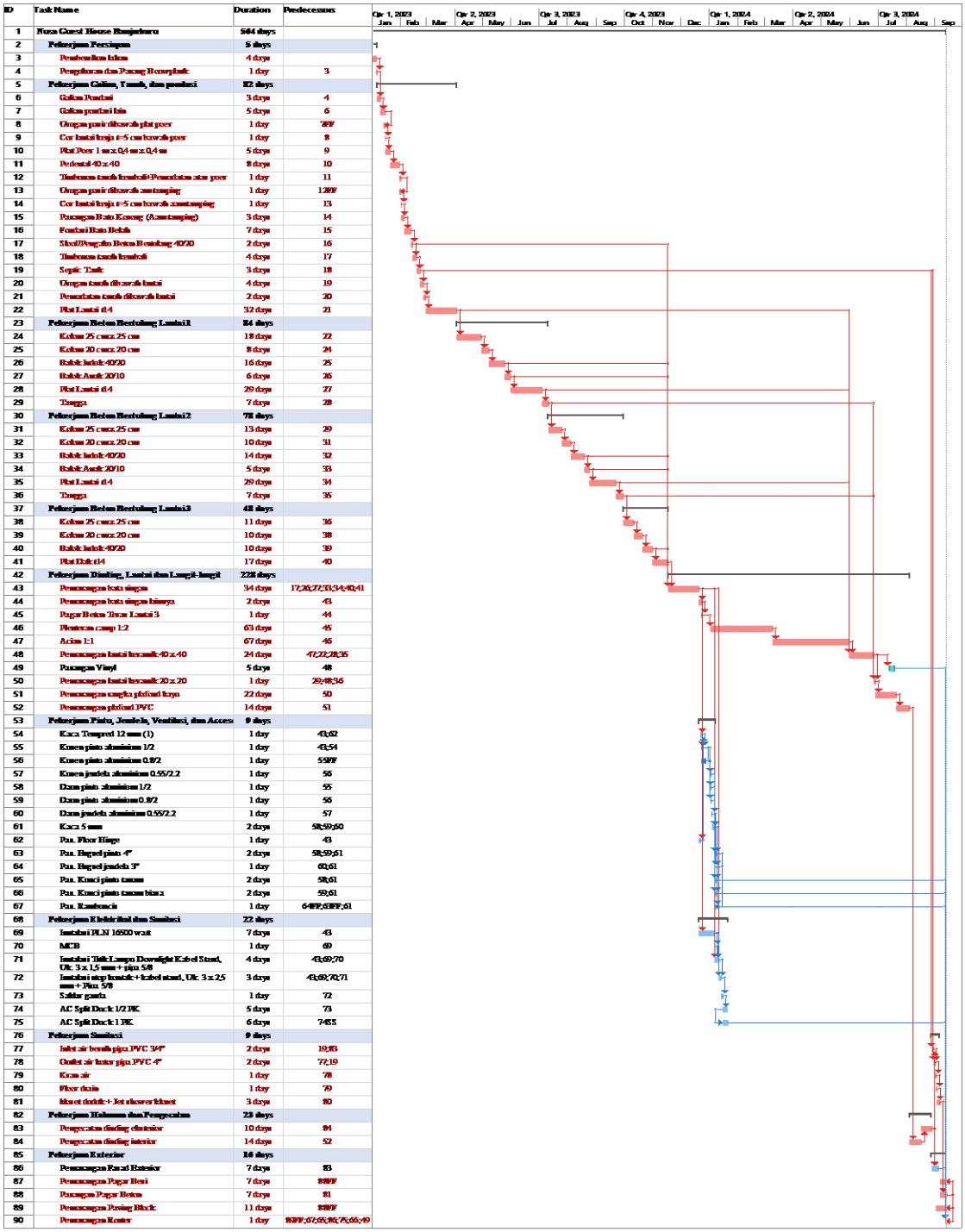


Figure 3 Precedence Diagram Method Result

Critical Path

The critical path is obtained by tracing the sequence of work that results in the longest duration without any slack (float) at all, meaning that any delay in any of the work on this path will directly extend the overall project duration. The results of the preparation of PDM using Microsoft Project and can be seen in Figure 4 with a red gantchart showing the critical path with a limitation of 10 workers. The following are the results of PDM preparation using Microsoft Project:

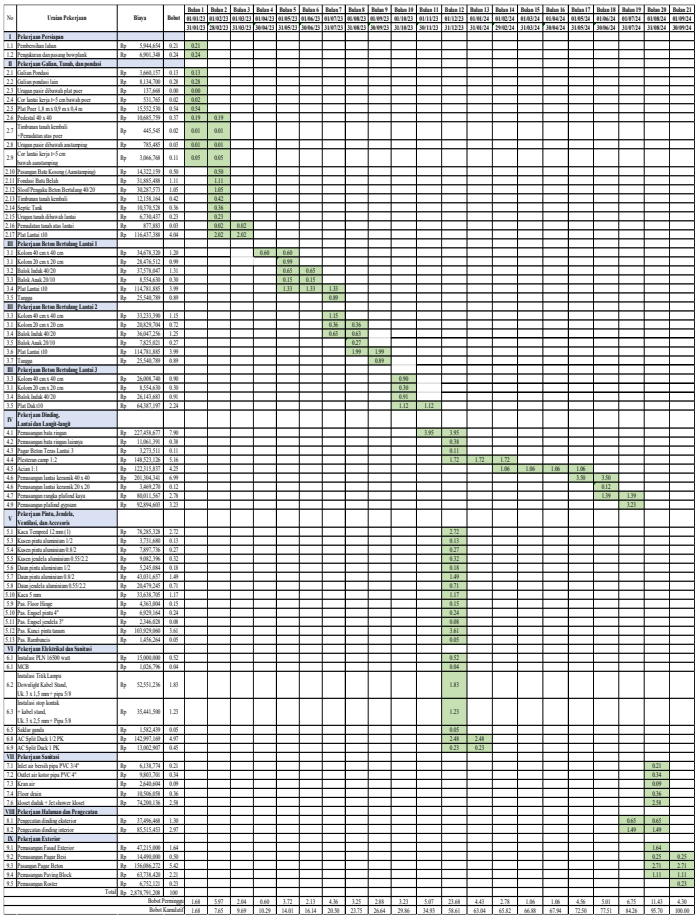


ID	Task Name	Duration	Predecessors
1	Nusa Guest House Banjaharu	564 days	
2	Pekerjaan Persiapan	5 days	
3	Pembentukan Ikhsa	4 days	
4	Pengukuran dan Pasang Bouwplank	1 day	3
5	Pekerjaan Galian, Tanah, dan pondasi	82 days	
6	Galian Pondasi	3 days	4
7	Galian pondasi batu	5 days	6
8	Urugan pasir dibawah plat poer	1 day	7FF
9	Cor lantai kerja t=5 cm bawah poer	1 day	8
10	Plat Poer 1 uuu.0,4 uuu.0,4 uu	5 days	9
11	Pedestal 40 x 40	8 days	10
12	Timbunan tanah kembali+Pemadatan atau poer	1 day	11
13	Urugan pasir dibawah santaimping	1 day	12FF
14	Cor lantai kerja t=5 cm bawah santaimping	1 day	13
15	Pasangan Batu Kosong (Aanstamping)	3 days	14
16	Pondasi Batu Belah	7 days	15
17	Sloof/Pengaku Beton Bertulang 40/20	2 days	16
18	Timbunan tanah kembali	4 days	17
19	Septic Tank	3 days	18
20	Urugan tanah dibawah lantai	4 days	19
21	Pemadatan tanah dibawah lantai	2 days	20
22	Plat Lantai t14	32 days	21
23	Pekerjaan Beton Bertulang Lantai1	84 days	
24	Kolom 25 cmx 25 cm	18 days	22
25	Kolom 20 cmx 20 cm	8 days	24
26	Balok lantai 40/20	16 days	25
27	Balok Anak 20/10	6 days	26
28	Plat Lantai t14	29 days	27
29	Tangga	7 days	28
30	Pekerjaan Beton Bertulang Lantai2	78 days	
31	Kolom 25 cmx 25 cm	13 days	29
32	Kolom 20 cmx 20 cm	10 days	31
33	Balok lantai 40/20	14 days	32
34	Balok Anak 20/10	5 days	33
35	Plat Lantai t14	29 days	34
36	Tangga	7 days	35
37	Pekerjaan Beton Bertulang Lantai3	48 days	
38	Kolom 25 cmx 25 cm	11 days	35
39	Kolom 20 cmx 20 cm	10 days	38
40	Balok lantai 40/20	10 days	39
41	Plat Dak t14	17 days	40
42	Pekerjaan Dinding, Lantai dan Langit-langit	228 days	
43	Pemasangan bata ringan	34 days	17,26,27,33,34,40,41
44	Pemasangan bata ringan bisnya	2 days	43
45	Pagar Beton Teras Lantai 3	1 day	44
46	Plesteran camp 1:2	63 days	45
47	Aciun 1:1	67 days	46
48	Pemasangan lantai keramik 40 x 40	24 days	47,22,28,35
49	Pasangan Vinyl	5 days	48
50	Pemasangan lantai keramik 20 x 20	1 day	29;48;56
51	Pemasangan rangka plafond kayu	22 days	50
52	Pemasangan plafond PVC	14 days	51
53	Pekerjaan Pintu, Jendela, Ventilasi, dan Access	9 days	
54	Kaca Tempred 12 mm (1)	1 day	43;62
55	Kusen pintu aluminium 1/2	1 day	43;54
56	Kusen pintu aluminium 0.8/2	1 day	55FF
57	Kusen jendela aluminium 0.55/2.2	1 day	56
58	Daun pintu aluminium 1/2	1 day	55
59	Daun pintu aluminium 0.8/2	1 day	56
60	Daun jendela aluminium 0.55/2.2	1 day	57
61	Kaca 5 mm	2 days	58;59;60
62	Pas. Floor Hinge	1 day	43
63	Pas. Engsel pintu 4"	2 days	58;59;61
64	Pas. Engsel jendela 3"	1 day	60;61
65	Pas. Kunci pintu tanam	2 days	58;61
66	Pas. Kunci pintu tanam biasa	2 days	59;61
67	Pas. Rambancin	1 day	64FF,65FF,61
68	Pekerjaan Kelistrikan dan Sanitasi	22 days	
69	Instalasi PLN 16500 watt	7 days	43
70	MCB	1 day	69
71	Instalasi Titik Lampu Downlight Kabel Standi, Ukr. 3 x 1,5 mm + pipa 5/8	4 days	43;69;70
72	Instalasi stop kontak + kabel standi, Ukr. 3 x 2,5 mm + Pipa 5/8	3 days	43;69;70;71
73	Saklar ganda	1 day	72
74	AC Split Duck 1/2 PK	5 days	73
75	AC Split Duck 1 PK	6 days	74;55
76	Pekerjaan Sanitasi	9 days	
77	Inlet air bersih pipa PVC 3/4"	2 days	19;43
78	Outlet air kotor pipa PVC 4"	2 days	77;19
79	Kran air	1 day	78
80	Floor drain	1 day	79
81	Shower duduk + Jet shower kloset	3 days	80
82	Pekerjaan Halaman dan Penggerasan	23 days	
83	Penggerasan finding eksterior	10 days	84
84	Penggerasan finding interior	14 days	52
85	Pekerjaan Exterior	16 days	
86	Pemasangan Rusd Eksterior	7 days	83
87	Pemasangan Pagar Besi	7 days	88FF
88	Pasangan Pagar Beton	7 days	81
89	Pemasangan Paving Block	11 days	88FF
90	Pemasangan Kanter	1 day	86FF,87,85,90,75,66,49

Figure 4 *Critical Path*

S Curve

The S curve is an advanced stage in project scheduling planning to determine the movement of the work flow from the beginning to the end of the work, here is an curve that illustrates the accumulated percentage of work throughout the 564 working days of the project. the following are the results of the s curve research analysis:



No	Uraian Pekerjaan	Biaya	Bobot	Bulan 1	Bulan 2	Bulan 3	Bulan 4	Bulan 5	Bulan 6	Bulan 7	Bulan 8	Bulan 9	Bulan 10	Bulan 11	Bulan 12	Bulan 13	Bulan 14	Bulan 15	Bulan 16	Bulan 17	Bulan 18	Bulan 19	Bulan 20	Bulan 21
				01/01/23	01/02/23	01/03/23	01/04/23	01/05/23	01/06/23	01/07/23	01/08/23	01/09/23	01/10/23	01/11/23	01/12/23	01/01/24	29/02/24	31/03/24	30/04/24	31/05/24	30/06/24	31/07/24	31/08/24	30/09/24
				31/01/23	28/02/23	31/03/23	30/04/23	31/05/23	30/06/23	31/07/23	31/08/23	30/09/23	30/10/23	30/11/23	31/12/23	31/01/24	29/02/24	31/03/24	30/04/24	31/05/24	30/06/24	31/07/24	31/08/24	30/09/24
I	**Pekerjaan Persiapan**																							
1.1	Pembersihan lahan	Rp	5.944.654	0.21	0.21																			
1.2	Pengukuran dan pasang bowplank	Rp	6.901.548	0.24	0.24																			
II	**Pekerjaan Galian, Timbun, dan pondasi**																							
2.1	Galian Pondasi	Rp	3.668.157	0.13	0.13																			
2.2	Galian pondasi lain	Rp	8.134.700	0.28	0.28																			
2.3	Urugan pasir dibawah plat poer	Rp	137.600	0.00	0.00																			
2.4	Cor lantai kerja t=5 cm bawah plt poer	Rp	531.765	0.02	0.02																			
2.5	Plat Poer 1,8 m x 0,9 m x 0,4 m	Rp	15.552.530	0.54	0.54																			
2.6	Pedestal 40 x 40	Rp	10.605.759	0.37	0.19	0.19																		
2.7	Timbunan tanah kembali - Pemadatan atas poer	Rp	445.545	0.02	0.01	0.01																		
2.8	Urugan pasir dibawah aanstamping	Rp	785.485	0.03	0.01	0.01																		
2.9	Cor lantai kerja t=5 cm bawah aanstampingg	Rp	3.066.768	0.11	0.05	0.05																		
2.10	Pasangan Batu Kosong (Aanstamping)	Rp	14.322.159	0.50		0.50																		
2.11	Fondasi Batu Belah	Rp	31.885.488	1.11		1.11																		
2.12	Sloof/Pengaku Beton Bertulang 40/20	Rp	50.267.573	1.05		1.05																		
2.13	Timbunan tanah kembali	Rp	12.158.164	0.42		0.42																		
2.14	Septic Tank	Rp	10.370.528	0.36		0.36																		
2.15	Urugan tanah dibawah lantai	Rp	6.736.457	0.23		0.23																		
2.16	Pemadatan tanah atas lantai	Rp	877.885	0.03		0.02	0.02																	
2.17	Plat Lantai 10	Rp	116.437.388	4.04		2.02	2.02																	
III	**Pekerjaan Beton Bertulang Lantai 1**																							
3.1	Kolom 40 cm x 40 cm	Rp	34.678.328	1.20			0.60	0.60																
3.1	Kolom 20 cm x 20 cm	Rp	28.476.512	0.99				0.99																
3.2	Balok Induk 40/20	Rp	37.579.047	1.31				0.65	0.65															
3.3	Balok Anak 20/10	Rp	9.554.630	0.38				0.15	0.15															
3.4	Plat Lantai t10	Rp	114.781.885	3.99				1.33	1.33	1.33														
3.5	Tangga	Rp	25.540.789	0.89						0.89														
III	**Pekerjaan Beton Bertulang Lantai 2**																							
3.1	Kolom 40 cm x 40 cm	Rp	33.233.398	1.15						1.15														
3.1	Kolom 20 cm x 20 cm	Rp	20.829.704	0.72						0.36	0.36													
3.4	Balok Induk 40/20	Rp	36.047.256	1.25						0.63	0.63													
3.3	Balok Anak 20/10	Rp	7.825.453	0.27							0.27													
3.6	Plat Lantai t10	Rp	114.781.885	3.99							1.99	1.99												
3.7	Tangga	Rp	25.540.789	0.89								0.89												
III	**Pekerjaan Beton Bertulang Lantai 3**																							
3.3	Kolom 40 cm x 40 cm	Rp	26.008.748	0.90									0.90											
3.1	Kolom 20 cm x 20 cm	Rp	8.554.630	0.30									0.30											
3.4	Balok Induk 40/20	Rp	26.143.685	0.91									0.91											
3.5	Plat Dak t10	Rp	64.387.195	2.24									1.12	1.12										
IV	**Pekerjaan Hending, Lantai dan Langit-langit**																							
4.1	Pemasangan bata ringan	Rp	227.458.677	7.90										3.95	3.95									
4.2	Pemasangan bata ringan 1aroma	Rp	11.061.391	0.38											0.38									
4.3	Pagar Beton Tema Lantai 3	Rp	3.273.311	0.11											0.11									
4.4	Plesteran camp 1:2	Rp	148.523.126	5.16											1.72	1.72	1.72							
4.5	Acian 1:1	Rp	122.315.837	4.25													1.06	1.06	1.06	1.06				
4.6	Pemasangan lantai keramik 40 x 40	Rp	201.304.341	6.99																3.50	3.50			
4.6	Pemasangan lantai keramik 20 x 20	Rp	3.469.270	0.12																	0.12			
4.7	Pemasangan rangka plafond kayu	Rp	80.011.267	2.78																	1.39	1.39		
4.9	Pemasangan plafond gypsum	Rp	92.894.603	3.23																		3.23		
V	**Pekerjaan Pintu, Jendela, Ventilasi, dan Kaca/arch**																							
5.1	Kaca Tempered 12 mm (1)	Rp	78.285.328	2.72											2.72									
5.3	Kusen pintu aluminium 1/2	Rp	3.731.680	0.13											0.13									
5.4	Kusen pintu aluminium 0.8/2	Rp	7.897.756	0.27											0.27									
5.5	Kusen jendela aluminium 0.55/2.2	Rp	9.082.596	0.32											0.32									
5.6	Daun pintu aluminium 1/2	Rp	5.245.084	0.18											0.18									
5.7	Daun pintu aluminium 0.8/2	Rp	43.031.657	1.49											1.49									
5.8	Daun jendela aluminium 0.55/2.2	Rp	20.479.245	0.71											0.71									
5.10	Kaca 5 mm	Rp	33.638.705	1.17											1.17									
5.9	Pas. Floor Hinge	Rp	4.363.004	0.15											0.15									
5.10	Pas. Engsel pintu 4"	Rp	9.929.164	0.24											0.24									
5.11	Pas. Engsel jendela 3"	Rp	2.346.028	0.08											0.08									
5.12	Pas. Kunci pintu tanam	Rp	103.929.068	3.61											3.61									
5.13	Pas. Rambanzio	Rp	1.456.264	0.05											0.05									
VI	**Pekerjaan Elektrikal dan Sanitasi**																							
6.1	Instalasi PLN 16500 watt	Rp	15.000.000	0.52											0.52									
6.3	MCB	Rp	1.026.796	0.04											0.04									
6.2	Instalasi Titik Lampu Downlight Kabel Stand, 0,8, 3 x 1,5 mm + pipa 5/8	Rp	52.551.236	1.83											1.83									
6.3	Instalasi stop kontak + kabel stand, 0,8, 3 x 2,5 mm + Pipa 5/8	Rp	35.441.500	1.23											1.23									
6.5	Sakklar ganda	Rp	1.582.439	0.05											0.05									
6.3	AC Split Duck 1/2 PK	Rp	142.997.169	4.97											2.48	2.48								
6.9	AC Split Duck 1 PK	Rp	13.002.907	0.45											0.23	0.23								
VII	**Pekerjaan Sanitasi**																							
7.1	Inlet air bersih pipa PVC 3/4"	Rp	6.138.774	0.21																		0.21		
7.2	Outlet air kotor pipa PVC 4"	Rp	9.803.720	0.34																		0.34		
7.3	Keran air	Rp	2.640.604	0.09																		0.09		
7.4	Floor drain	Rp	10.506.055	0.36																		0.36		
7.6	Kloset duduk + Jet shower kloset	Rp	74.200.336	2.58																		2.58		
VIII	**Pekerjaan Halaman dan Pengerasan**																							
8.1	Pengecatan dinding eksterior	Rp	37.496.468	1.30																		0.65	0.65	
8.2	Pengecatan dinding interior	Rp	85.515.453	2.97																		1.49	1.49	
IX	**Pekerjaan Exterior**																							
9.1	Pemasangan Fasad Eksterior	Rp	47.215.888	1.64																			1.64	
9.2	Pemasangan Pagar Besi	Rp	14.499.000	0.50																			0.25	0.25
9.3	Pasangan Pagar Beton	Rp	156.086.272	5.42																			2.71	2.71
9.4	Pemasangan Paving Block	Rp	63.738.420	2.21																			1.11	1.11
9.5	Pemasangan Roster	Rp	6.752.152	0.23																				0.23
	Total	Rp	2.878.750.208	100																				
			Bobot Perminggu		1.68	5.97	2.04	0.60	3.72	2.13	4.36	3.25	2.88	3.23	5.07	23.68	4.43	2.78	1.06	1.06	4.56	5.01	4.75	11.43	4.30
			Bobot Kumulatif		1.68	7.65	9.69	10.29	14.01	16.14	20.50	23.75	26.64	29.86	34.93	58.61	63.04	65.82	66.88	67.94	72.50	77.51	84.26	95.70	100.00

Figure 5 Monthly S Curve

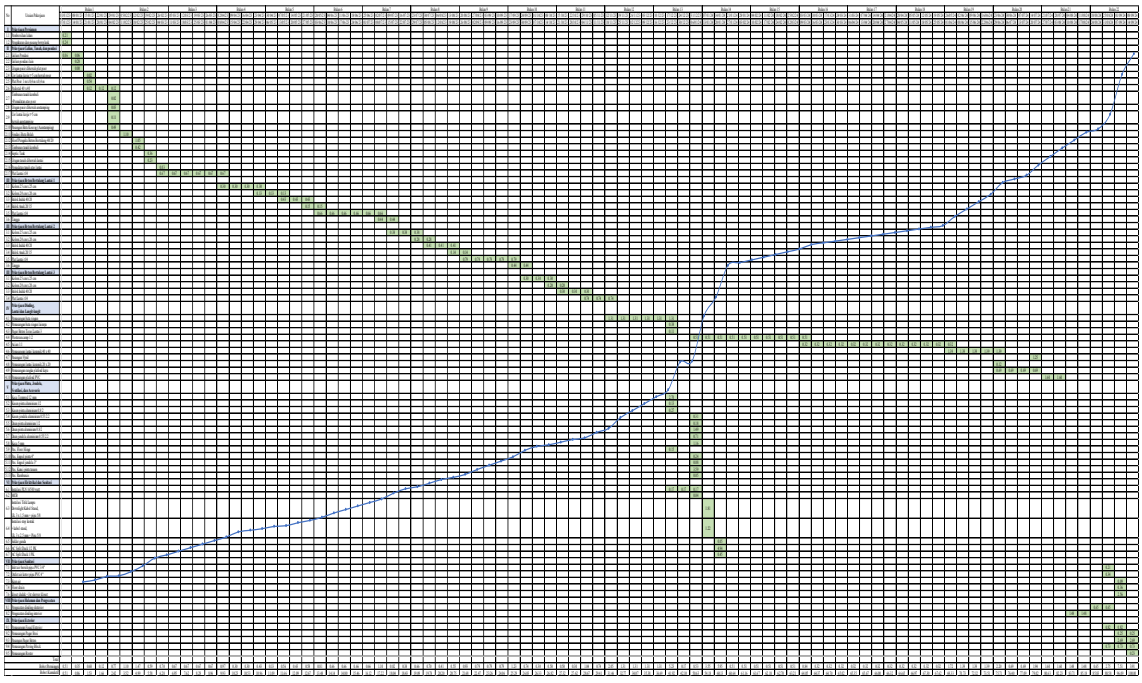


Figure 6 Weekly S Curve

5. CONCLUSION

Based on the research problems and discussion, it is concluded that the results of the analysis of the Budget Plan Cost (RAB) and scheduling of the Nusa Guest House Banjarbaru project show an estimated cost of Rp 2,919,513,994 (excluding 12% VAT) with a duration of 564 working days-January 2, 2023 to September 12, 2024-using a system of seven working days per week and including public holidays; for comparison, the project without planning costs Rp 4,406,000,000 so that there is a difference of Rp 1,486,486,005.59, and the progress until now has only reached 85%. In addition, identification of the critical path using the Precedence Diagram Method (PDM) confirms a series of critical paths that include preparatory work; excavation, soil, and foundation; reinforced concrete floors 1, 2, and 3; walls, floors, and ceilings; sanitation; painting; and exterior work.

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