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MANAGEMENT ANALYSIS OF CONSTRUCTION PROJECT CIPAGER CHECK DAM OF KUNINGAN REGENCY

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ABSTRACT

Project management is one important aspect in the application of knowledge, expertise and skills to achieve the goals or objectives that have been determined in order to obtain optimum results in terms of performance, time, quality and safety.

This study was conducted to analyze the Check Dam Project Construction Management Cipager River Kuningan start of calculating volume, implementation works, supplies (tools, labor, materials) budget plan, method, barchart, s curve, analysis critical path method and cash flow.

The results showed that the budget plan costs incurred to complete the Cipager Check Dam River Of Kuningan Regency Rp. 6.140.922.000,00 (Six billion one hundred forty million Nine hundred twenty two thousand rupiah) including 10% VAT. Then by using analysis critical path method, completion takes as long as 25 weeks, or 175 calendar days.

Keyword : Construction Management, Volume, RAB, Barchart, S Curve, Critical Path Method and Cash Flow.

A. INTRODUCTION

Management project is an attempt to use limited resources efficiently, effectively and timely in completing a project that has been determined / planned. There are three activities of the basic functions of project management including planning, implementation and control. Of the three activities are performed control over the resources on a project that includes labor (manpower), equipment (machine), material (material), money (money) and method (method).

Each project has different characteristics from one project to another project of his. These different characteristics of the project will affect the progress of the implementation work in the field. The progress of work can be delayed or according on the schedule or can also be faster than planned. Therefore, we need a good project management in order to achieve the objectives of the project.

MANAGEMENT ANALYSIS OF CONSTRUCTION PROJECT CIPAGER CHECK DAM OF KUNINGAN REGENCY is expected to describe the conditions of the project making it easier for contractor to make decisions to optimize the performance of the project.

B. ISSUES FOCUS

Plan development project construction management in the method of calculating the volume of work, schedule and method of implementing development project check dam Cipager river of Kuningan Regency.

C. THEOLOGICAL ISSUES

In it's proposed thesis proposal entitled "ANALYSIS OF CONSTRUCTION MANAGEMENT PROJECT DEVELOPMENT CHECK DAM RIVER CIPAGER OF KUNINGAN REGENCY" therefore it is necessary to limit the writing or scope of the research, limit the issues raised are as follows :

1. Calculating the Budget Plan (RAB)
2. Make Unit Price Analysis Conducted
3. Need Assessment Tool (Machine)
4. Needs analysis Materials (Materials)
5. Analysis of Manpower Requirement (*Man*)
6. Describe Implementation method Works (Method)
7. Plan time jobs using the method of Bar Chart and S Curve
8. Identifying Network using method Critical Path Method (CPM)

D. RESEARCH OBJECTIVES

This study was conducted in order to analyze the construction management on development projects Cipager check dam rivers, among others:

1. To find out how much the volume of work on the construction management on development project Cipager.
2. To analyze the methods of implementation the performance of the work to the dam construction project check Cipager
3. To learn about tools used in the construction of check dam the river Cipager.
4. To find out the cost of the project construction of check dam the river Cipager.
5. To deetermined analysis CPM methods, Barchart, S Curve and Cash Flow.

E. USES RESEARCH

1. Theoretical Uses
   a. As reference material research on construction management.
   b. Adding to mindset students in learning, observing, and understanding the issues related to the field of civil engineering.
2. Practical Utility
   a. Knowing the process of preparation of the project implementation schedule due to delays in the implementation of the field (Re-Schedule).
   b. Knowing the project implementation methods used in the construction of check dams.
   c. Adding to the scientific understanding of the management of the project directly. And determine the

calculation of the volume of work.

F. FRAMEWORK FOR THINKING

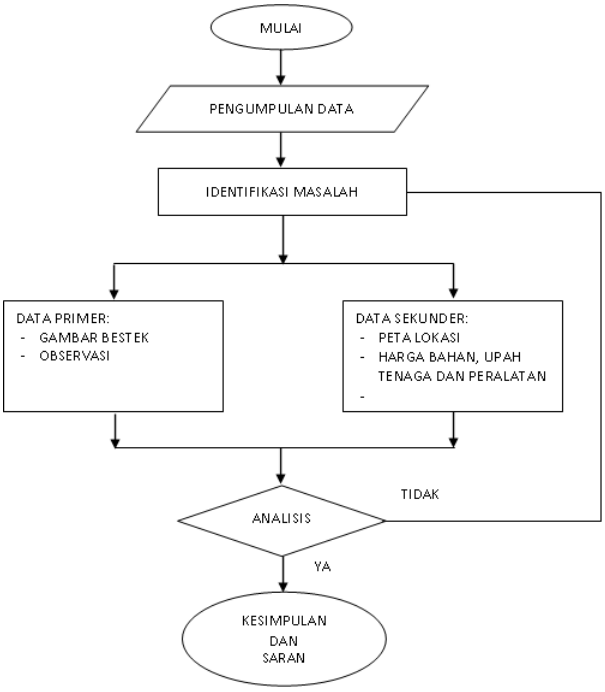

Figure 1.1 Flowchart Research

G. LITERATURE PREVIOUS RESEARCH

1. Research conducted by Saripudin with Title Research is *Management Analysis Project Implementation Grand Prima Cirebon* goal is to set the schedule of work, plan the progress of work and maintenance on the building structure with Method Using Data Analysis **Methods *Earned Value*** to analyze the costs and time, While the method CPM *(Critical Path Method)* as the corrective actions to analyze the network for the implementation of the project to be ideal.

2. The study was conducted by Lyta Pratama Arif titled *Pengembangan Model Analisis Manajemen Konstruksi Proyek Pembangunan Waduk* objective being to Analyze Barriers to Employment, Analyzing Work Implementation, project delays On Jatigede Dam Project Implementation.

3. Research Conducted by Rihad Arif Zein with Title *Analisis Manajemen Pelaksanaan Proyek Ruang Produksi PT. Indo Food Cbp Cirebon* goal of weeks to compile-time performance, calculate costs due to delays in project implementation, preparation of project implementation schedule in the field.

4. Research Conducted by Tanto Sutanto D to the title *Analisis Manajemen Konstruksi Ruko Di Tuparev* goal of re Planning Time Schedule, fees and Implementation Method.

5. Research Conducted by Yudi Sutomo entitled *Analisis Manajemen Proyek Pembangunan kantor PT. Prima Multi Usaha Indonesia* aim is to overcome the problems in project management such as compile-time performance, calculate costs due to delays in project implementation, preparation of implementation schedule, the Planning Time Schedule, fees and Methods Implementation. Projects in the field.

Current research is Construction Management Analysis Check Dam Construction Project Cipager Of Kuningan Regency. Basically have elements in common with previous studies when viewed in terms of its objectives is to overcome the problems in project management such as preparing a needs assessment of tools and materials, analysis methods of work, the calculation of volume and cost, the analysis time *(barchart* and *S*-Curve), networks *(Critical path* Method) and *Cash Flow* analysis.

A. Basic Theory

Project Management *(Project Management)* is a science that is very important in the management of a project so that the project can be completed efficiently and effectively. To achieve the employment targets to be achieved by the development of potential resources and limited time, it must be applied to the planning, evaluation, and follow-up of implementation

have been evaluated. So in the world of construction management can be referred to as a technique which consists of knowledge, skills, and art made in the project, in order to coordinate between the parties there are and manage project resources. Basically, the project consists of the main aspects, namely:

1. Cost (Money)
2. Quality (Quality)
3. Time (Time)

Besides the elements - elements that must be managed by implementing the project itself includes:

1. Labor (Man)
2. Equipment (Machine)
3. Material *(Materials*)
4. Method (method)
5. Cost (Money)

General Principles of Project Management:

1. ***Planning*** **(Planning)**
   Planning is a process that systematically prepares activities in order to achieve specific goals and objectives.

2. ***Organizing*** **(Organizing)**
   Organizing (Organizing work) is as setting up an activity undertaken by a group of people, led by the leader of the group in a container organization. This illustrates the organization container structural relationships and functional necessary to distribute responsibilities, resources, and data.

3. ***Actuating*** **(movement)**
   Actuating interpreted as a management function for moving people who are members of the organization in order to carry out the activities specified in the *planning.* on stage This required the ability groups chairma.
   to drive the direct, and motivate members of the same group to jointly contribute to the success of the project management goals and objectives that have been set.

4. ***Controlling*** **(Controlling)**
   Controlling is as activities to work that has been carried out according to plan. In project management, *controlling* of the work done by the consultant contractor through supervision contract, where the execution of construction work performed by contractors. General superintendent obliged to gradually control of the work performed by the staff under his control to ensure that each staff has been doing a good job in the corridors. Thus, the stages of achieving targets due to be met.

B. DATA ANALYSIS METHOD

There are three methods of data analysis performed in this study, namely method, *bar-chart* method S*Curve* and Method CPM *(Critical Path Method).* As corrective measures to analyze the network for the implementation of the project to be ideal.

Bachart

Barchart is a set of activities that are placed in vertical columns, temporarily placed in horizontal rows. The start and finish of each activity and its duration is indicated by placing a horizontal beam section to the right of each activity. Approximate start and end times can be determined from the horizontal time scale at the top of the chart. The length of the bar represents the duration of the activity and usually those activities organized by chronology jobs (Callahan, 1992).

S curve *(S*-Curve)

S curve is a graph created by the vertical axis as cumulative value or completion *(progress)* activity and the horizontal axis as the time of the S curve can demonstrate the ability of project based activities, time and weight of the work that is represented as a percentage of the cumulative of all activities project.

Critical Path Method (CPM)

In the method known their network of the critical path, the path that has a series of components of activity, with the total amount and the longest time period showed the fastest project completion. Thus, the critical path consists of a series of critical, starting from the first event until the last activity of the project.

Cash Flow

After the budget and budget distribution fee based on *the time schedule* is made, the next

step was made a cash budget of the project (cashflow). *Cashflow* is an estimate of revenues and expenditures that will be or is being done

The usefulness of *the of cash* project,namely in terms flow:

a. Knowing the possibility of cash position in the future.
b. Knowing in advance when there is a shortage of cash, and when it will happen excess cash.
c. Setting the number of loans needed to complete a project.
d. Knowing the amount of working capital loan interest.
e. Estimating the cost of the position at the end of the project.

C. OBJECT AND RESEARCH METHOD

The research method used is the quantitative method. Quantitative method is a method that is done by collecting and studying literature relating to planning. To simplify the steps preparation of this paper is made methodology which aims to direct and streamline the time and the results to be achieved.

Methodology This study is composed of several main stages, as shown below:

1. Preparation of Survey and Identification Course
2. for primary data and secondary data on institutions and related services necessary to complete the data required in the preparation of the thesis.
3. Conducted an analysis of data obtained through the identification of problems and make formulation

conclusions and recommendations Taking the of the research results.

D. RESEARCH SITES

The study was conducted at Check Dam Construction Project Cipager River, located of Kuningan Regency.

A. ANALYSIS AND DISCUSSION

In the work of check dam construction project among others:

a. The preparatory work
   - Access Road
   - Mobilization and Demobilization
b. Earthworks
   - Excavation rocky soil with heavy equipment

Figure 2.1 Research Sites

   - re-compacted piles and
c. Construction Jobs
   - stone masonry Job 1: 4
   - Work shop floor use concrete quality K.100
   - Reinforcement
   - Structural work using concrete quality K.225

in this work already scheduled a way as possible so that implementation can proceed smoothly and on time.

B. ANALYSIS CALCULATION OF WORK

Volume job is to count the number of jobs in a unit volume. The work volume is calculated based on the image drinking of the building to be made.

No.	JENIS PEKERJAAN	SAT	KUANT
I	**PEKERJAAN PERSIAPAN :**		
1	Mobilisasi & Demobilisasi	Ls.	1.00
2	Pembuatan Jalan Akses	Ls.	1.00
II	**PEKERJAAN TANAH**		
1	Galian tanah berbatu dengan alat	m3	4,304.48
2	Timbunan kembali dipadatkan	m3	101.15
III	**PEKERJAAN KONSTRUKSI**		
1	Pasangan batu 1 : 4	m3	3,753.87
2	Beton K. 100 untuk lantai kerja	m3	39.04
3	Beton K. 225 untuk struktur	m3	978.94
4	Pembesian	kg	49,247.09
5	Batu Kosong	m3	154.58

Table 4.3 The calculation the volume of work

Analisis Bahan Pekerja

No.	Tanggal Pelaksanaan	Jenis Pekerjaan	Volume	SAT.	Bahan	Volume	Harga	Total Harga
1	22 Januari 2016 s.d 14 Februari 2016	Mobilisasi dan Demobilisasi	0.50	ls				
2	15 Februari 2016 s.d 21 Februari 2016	Pembuatan jalan akses	1.00	ls				
3	7 Maret 2016 s.d 13 Maret 2016	Galian tanah berbatu dengan alat	700.00	m3				
4	14 Maret 2016 s.d 20 Maret 2016	Galian tanah berbatu dengan alat	717.00	m3				
5	21 Maret 2016 s.d 27 Maret 2016	Galian tanah berbatu dengan alat	720.00	m3				
		Pasangan batu 1 : 4	170.00	m3	Batu Belah (m3)	204	187,000.00	38,148,000.00
					Pasir (m3)	88	154,000.00	13,613,600.00
					Semen (Zak)	554	66,000.00	36,577,200.00
6	28 Maret 2016 s.d 03 April 2016	Galian tanah berbatu dengan alat	725.00	m3				
		Pasangan batu 1 : 4	171.00	m3	Batu Belah (m3)	205	187,000.00	38,372,400.00
					Pasir (m3)	89	154,000.00	13,693,600.00
					Semen (Zak)	557	66,000.00	36,792,360.00
7	04 April 2016 s.d 10 April 2016	Galian tanah berbatu dengan alat	705.00	m3				
		Pasangan batu 1 : 4	173.00	m3	Batu Belah (m3)	208	187,000.00	38,821,200.00
					Pasir (m3)	90	154,000.00	13,853,800.00
					Semen (Zak)	564	66,000.00	37,222,600.00
8	11 April 2016 s.d 17 April 2016	Galian tanah berbatu dengan alat	737.48	m3				
		Pasangan batu 1 : 4	172.00	m3	Batu Belah (m3)	206	187,000.00	38,596,800.00
					Pasir (m3)	89	154,000.00	13,773,700.00
					Semen (Zak)	561	66,000.00	37,007,500.00
9	18 April 2016 s.d 24 April 2016	Pasangan batu 1 : 4	170.00	m3	Batu Belah (m3)	204	187,000.00	38,148,000.00
					Pasir (m3)	88	154,000.00	13,613,600.00
					Semen (Zak)	554	66,000.00	36,577,200.00
		Pembesian	2,735.00	kg	Besi beton (Kg)	2,872	12,000.00	34,461,000.00
					Kawat beton (Kg)	137	13,000.00	1,777,700.00
10	25 April 2016 s.d 01 Mei 2016	Pasangan batu 1 : 4	172.00	m3	Batu Belah (m3)	206	187,000.00	38,596,800.00
					Pasir (m3)	89	154,000.00	13,773,700.00
					Semen (Zak)	561	66,000.00	37,007,500.00
		Pembesian	2,736.00	kg	Besi beton (Kg)	2,873	12,000.00	34,473,600.00
					Kawat beton (Kg)	137	13,000.00	1,778,400.00
11	02 Mei 2016 s.d 08 Mei 2016	Pasangan batu 1 : 4	171.00	m3	Batu Belah (m3)	205	187,000.00	38,372,400.00
					Pasir (m3)	89	154,000.00	13,693,600.00
					Semen (Zak)	557	66,000.00	36,792,300.00
		Pembesian	2,734.00	kg	Besi beton (Kg)	2,871	12,000.00	34,448,400.00
					Kawat beton (Kg)	137	13,000.00	1,777,100.00
12	9 Mei 2016 s.d 15 Mei 2016	Pasangan batu 1 : 4	169.00	m3	Batu Belah (m3)	203	187,000.00	37,923,600.00
					Pasir (m3)	88	154,000.00	13,533,500.00
					Semen (Zak)	551	66,000.00	36,362,000.00
		Pembesian	2,735.00	kg	Besi beton (Kg)	2,872	12,000.00	34,461,000.00
					Kawat beton (Kg)	137	13,000.00	1,777,700.00

Table 4.4 Requirement calculation materials

C. NEEDS ANALYSIS MATERIALS *(MATERIAL)*

The material requirement can be searched based on each item of work that will be done, on each work item required the volume of work. The next step is to look for the data analysis unit price to see the percentage of use of the material in units of $m^{1.}$Can be written the formula of material requirements as follows:

$$Kmb = Vp \; x \; kms$$

Where:

Kmb = needs materials building
Vp = Volume of Work
Kms = the material needs of the Union of

D. AN ANALYSIS OF MANPOWER (MAN)

Labor is the magnitude of the amount of labor needed to complete the jobs section in one the unity of the work.

Labor Total = coefficient x Volume

Manpower Requirement / day

$$= \frac{Coefficient \times Volume\ of\ Work}{Duration}$$

Analisis Tenaga Pekerja

No.	Tanggal Pelaksanaan	Jenis Pekerjaan	Volume	SAT.	Tenaga	Orang	Upah	Hari/Jam	Total Harga
1	22 Februari 2016s.d 14 Februari 2016	Mobilisasi dan Demobilisasi	0.50	ls					
2	15 Februari 2016 s.d 21 Februari 2016	Pembuatan jalan akses	1.00	ls					
3	7 Maret 2016 s.d 13 Maret 2016	Galian tanah berbatu dengan alat	700.00	m3					
4	14 Maret 2016 s.d 20 Maret 2016	Galian tanah berbatu dengan alat	717.00	m3					
5	21 Maret 2016 s.d 27 Maret 2016	Galian tanah berbatu dengan alat	720.00	m3					
		Pasangan batu 1 : 4	170.00	m3	Pekerja	9	45,000.00	7	2,833,300.00
					Tukang	7	55,000.00	7	2,695,000.00
					Kepala Tukang	2	66,000.00	7	1,009,800.00
					Mandor	1	77,000.00	7	539,000.00
6	28 Maret 2016 s.d 03 April 2016	Galian tanah berbatu dengan alat	725.00	m3					
		Pasangan batu 1 : 4	171.00	m3	Pekerja	9	45,000.00	7	2,850,000.00
					Tukang	7	55,000.00	7	2,695,000.00
					Kepala Tukang	2	66,000.00	7	1,015,700.00
					Mandor	1	77,000.00	7	539,000.00
7	04 April 2016 s.d 10 April 2016	Galian tanah berbatu dengan alat	705.00	m3					
		Pasangan batu 1 : 4	173.00	m3	Pekerja	10	45,000.00	7	3,150,000.00
					Tukang	7	55,000.00	7	2,695,000.00
					Kepala Tukang	2	66,000.00	7	1,027,600.00
					Mandor	1	77,000.00	7	539,000.00
8	11 April 2016 s.d 17 April 2016	Galian tanah berbatu dengan alat	737.48	m3					
		Pasangan batu 1 : 4	172.00	m3	Pekerja	9	45,000.00	7	2,866,600.00
					Tukang	8	55,000.00	7	3,080,000.00
					Kepala Tukang	2	66,000.00	7	1,021,600.00
					Mandor	1	77,000.00	7	539,000.00
9	18 April 2016 s.d 24 April 2016	Pasangan batu 1 : 4	170.00	m3	Pekerja	9	45,000.00	7	2,833,300.00
					Tukang	7	55,000.00	7	2,695,000.00
					Kepala Tukang	2	66,000.00	7	1,009,800.00
					Mandor	1	77,000.00	7	539,000.00
		Pembesian	2,735.00	kg	Pekerja	3	45,000.00	7	945,000
					Tukang	3	55,000.00	7	1,155,000
					Kepala Tukang	1	66,000.00	7	462,000
					Mandor	1	77,000.00	7	539,000
10	25 April 2016 s.d 01 Mei 2016	Pasangan batu 1 : 4	172.00	m3	Pekerja	9	45,000.00	7	2,866,600.00
					Tukang	7	55,000.00	7	2,695,000.00
					Kepala Tukang	2	66,000.00	7	1,021,600.00
					Mandor	1	77,000.00	7	539,000.00
		Pembesian	2,736.00	kg	Pekerja	3	45,000.00	7	945,000
					Tukang	3	55,000.00	7	1,155,000
					Kepala Tukang	1	66,000.00	7	462,000
					Mandor	1	77,000.00	7	539,000

Table 4.5 The requirement calculation analysis labor (man)

E. ANALYSIS TOOL WORKS (MACHINE)

Equipment construction splint is an important factor in a project to support the implementation of work.

Analisis Alat Pekerja

No.	Tanggal Pelaksanaan	Jenis Pekerjaan	Volume	SAT.	Alat	Jumlah Alat	Harj/Jam	Harga Perjam/Hari	Total Harga
1	22 februari 2016 s.d 14 Februari 2016	Mobilisasi dan Demobilisasi	0.50	ls	Concrete Mixer	4	-	222,000.00	888,000.00
				ls	Excavator	1	-	1,335,000.00	1,335,000.00
				ls	Concrete Vibrator	1	-	222,000.00	222,000.00
				ls	Stamper	1	-	111,000.00	111,000.00
2	15 Februari 2016 s.d 21 Februari 2016	Pembuatan jalan akses	1.00	ls	Excavator	1	55	400,000.00	22,000,000.00
6	7 Maret 2016 s.d 13 Maret 2016	Galian tanah berbatu dengan alat	700.00	m3	Excavator	1	0	708,000.00	35,400.00
3	14 Maret 2016 s.d 20 Maret 2016	Galian tanah berbatu dengan alat	717.00	m3	Excavator	1	35	708,000.00	24,780,000.00
4	21 Maret 2016 s.d 27 Maret 2016	Galian tanah berbatu dengan alat	720.00	m3	Excavator	1	35	708,000.00	24,780,000.00
		Pasangan batu 1 : 4	170.00	m3	Molen	4	7	49,000.00	1,372,000.00
5	28 Maret 2016 s.d 03 April 2016	Galian tanah berbatu dengan alat	725.00	m3	Excavator	1	35	708,000.00	24,780,000.00
		Pasangan batu 1 : 4	171.00	m3	Molen	4	7	49,000.00	1,372,000.00
7	04 April 2016 s.d 10 April 2016	Galian tanah berbatu dengan alat	705.00	m3	Excavator	1	35	708,000.00	24,780,000.00
		Pasangan batu 1 : 4	173.00	m3	Molen	4	7	49,000.00	1,372,000.00
8	11 April 2016 s.d 17 April 2016	Galian tanah berbatu dengan alat	737.46	m3	Excavator	1	35	708,000.00	24,780,000.00
		Pasangan batu 1 : 4	172.00	m3	Molen	4	7	49,000.00	1,372,000.00
9	18 April 2016 s.d 24 April 2016	Pasangan batu 1 : 4	170.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,735.00	kg		2,735	7	45,000.00	945,000
10	25 April 2016 s.d 01 Mei 2016	Pasangan batu 1 : 4	172.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,736.00	kg		2,736	7	45,000.00	945,000
11	02 Mei 2016 s.d 08 Mei 2016	Pasangan batu 1 : 4	171.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,734.00	kg					
12	9 Mei 2016 s.d 15 Mei 2016	Pasangan batu 1 : 4	169.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,735.00	kg					
13	16 Mei 2016 s.d 22 Mei 2016	Pasangan batu 1 : 4	168.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,736.00	kg					
14	23 Mei 2016 s.d 29 Mei 2016	Pasangan batu 1 : 4	170.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,734.00	kg					
		Beton K. 225 untuk struktur	69.00	m3	Concrete Mixer	2	7	222,000.00	4,098,600
11	30 Mei 2016 s.d 05 Juni 2016	Pasangan batu 1 : 4	175.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,735.00	kg		2,735	7	45,000.00	945,000
		Beton K. 225 untuk struktur	70.00	m3	Concrete Mixer	2	7	222,000.00	4,158,000
16	06 Juni 2016 s.d 12 Juni 2016	Pasangan batu 1 : 4	170.00	m3	Molen	4	7	49,000.00	1,372,000.00
		Pembesian	2,736.00	kg					
		Beton K. 225 untuk struktur	68.00	m3	Concrete Mixer	2	7	222,000.00	4,039,200

Table 4.6 Analysis the price of a unit of preparation work

F. ANALYSIS NETWORK (NETWORK PLANNING)

1. PREPARATION SCHEDULE OF WORK (METHOD BARCHART)

By planning and the results of the count then if using analytical methods *barchart* is as follows:

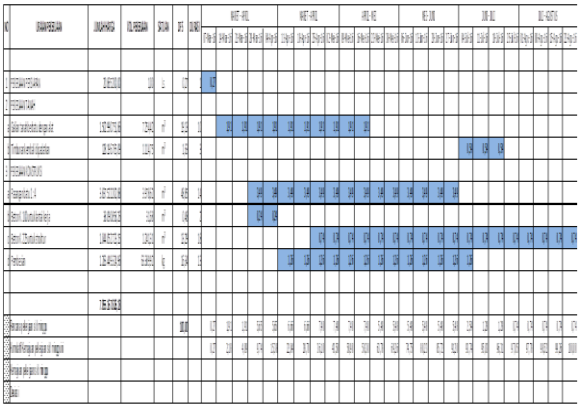

Figure 3.1 Barchart Method

2. PREPARATION SCHEDULE OF WORK (METHOD S CURVE)

Based on the planning and outcome Count Weight of *Bar Chart* then if using analysis *S Curve* is as follows:

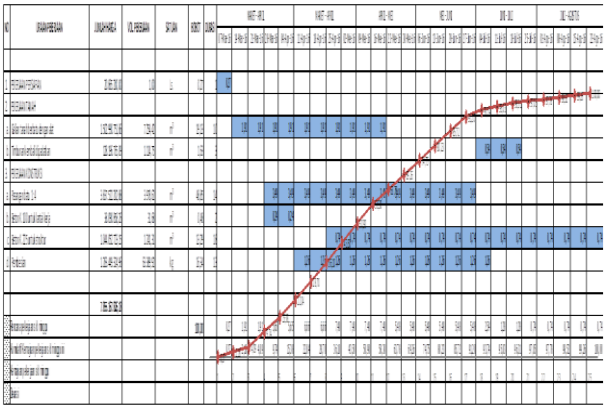

Figure 3.2 *S curve Method*

G. ACTION CORRECTION (ANALYSIS OF CRITICAL PATH METHOD)

Before making a network, it is necessary to know the first dependency of each item of work on the project. It aims to find out the work which must be done before in other work done or which jobs can be done along

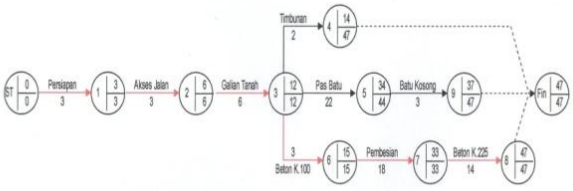

Figure 3.3 Diagram CPM

A. ANALYSIS CALCULATION THE CAST OF MONEY

Before making a network, so it is important to note before dependece each item work on project. It is meant to know work which to do before in the employment of other tilled or work which could be done at the same time

NO	ITEM PEKERJAAN	DURASI (Minggu)	KODE KEGIATAN	KEGIATAN SEBELUMNYA
1	Mobilisasi dan Demobilisasi	3	A	-
2	Pembuatan Jalan Akses	3	B	C
3	Galian Tanah Berbatu dengan alat	6	C	B
4	Timbunan kembali dipadatkan	2	D	C
5	Pasangan Batu 1:4	22	E	D
6	Pek.Beton untuk Struktur K.100	3	F	E
7	Pek.Beton untuk Struktur K.225	14	G	H
8	Pembesian	18	H	C
9	Batu Kosong	3	I	C

Table 4.1 Duration work

NO	ITEM PEKERJAAN	DURASI (Minggu)	KODE KEGIATAN	PERHITUNGAN MAJU	
				ES	EF
1	Mobilisasi dan Demobilisasi	3	A	0	3
2	Pembuatan Jalan Akses	3	B	3	6
3	Galian Tanah Berbatu dengan alat	6	C	6	12
4	Timbunan kembali dipadatkan	2	D	12	14
5	Pasangan Batu 1:4	22	E1	22	44
6	Pek.Beton untuk Struktur K.100	3	E2	12	15
7	Pek.Beton untuk Struktur K.225	14	F	33	47
8	Pembesian	18	G	15	33
9	Batu Kosong	3	H	34	37
JUMLAH		74			

Table 4.2 Dependence work

NO	ITEM PEKERJAAN	DURASI (Minggu)	KODE KEGIATAN	PERHITUNGAN MUNDUR	
				LS	LF
1	Mobilisasi dan Demobilisasi	3	A	0	3
2	Pembuatan Jalan Akses	3	B	3	6
3	Galian Tanah Berbatu dengan alat	6	C	6	12
4	Timbunan kembali dipadatkan	2	D	12	14
5	Pasangan Batu 1:4	22	E1	12	34
6	Pek.Beton untuk Struktur K.100	3	E2	12	15
7	Pek.Beton untuk Struktur K.225	14	F	33	47
8	Pembesian	18	G	15	33
9	Batu Kosong	3	H	44	47
JUMLAH		74			

Table 4.3 Dependence work

NO	ITEM PEKERJAAN	DURASI (Minggu)	KODE KEGIATAN	PERHITUNGAN MAJU		PERHITUNGAN MUNDUR		TOTAL FLOAT
				ES	EF	LS	LF	
1	Mobilisasi dan Demobilisasi	3	A	0	3	0	3	0
2	Pembuatan Jalan Akses	3	B	3	6	3	6	0
3	Galian Tanah Berbatu dengan alat	6	C	6	12	6	12	0
4	Timbunan kembali dipadatkan	2	D	12	14	12	14	0
5	Pasangan Batu 1:4	22	E1	22	44	12	34	-10
6	Pek.Beton untuk Struktur K.100	3	E2	12	15	12	15	0
7	Pek.Beton untuk Struktur K.225	14	F	33	47	33	47	0
8	Pembesian	18	G	15	33	15	33	0
9	Batu Kosong	3	H	34	37	44	47	10
JUMLAH		74						

Tabel 4.4 *Total Float*

Durasi 34 Minggu
Rencana Anggaran Biaya Rp 5,582,647,873

PERIODE		RENCANA PROGRES		RENCANA ARUS KAS				KOMULATIF
BULAN	MINGGU	MINGGU	KOMULATIF	MINGGUAN		BULANAN		
JANUARI 2016	1	0.08	0.08	Rp	4,362,405			Rp 4,362,405
	2	0.08	0.16	Rp	4,362,405			Rp 8,724,810
	3	0.29	0.45	Rp	16,235,177			Rp 24,959,987
	4	0.29	0.74	Rp	16,235,177	Rp	41,195,164	Rp 41,195,164
FEBRUARI 2016	5	0.29	1.03	Rp	16,235,177			Rp 57,430,342
	6	0.35	1.38	Rp	19,510,976			Rp 76,941,318
	7	0.51	1.89	Rp	28,739,140			Rp 105,680,458
	8	0.79	2.68	Rp	44,007,557	Rp	108,492,851	Rp 149,688,015
MARET 2016	9	0.79	3.46	Rp	44,007,557			Rp 193,695,572
	10	1.04	4.50	Rp	58,253,286			Rp 251,948,858
	11	1.40	5.91	Rp	78,499,319			Rp 330,448,178
	12	1.40	7.31	Rp	78,555,248	Rp	259,315,410	Rp 409,003,425
APRIL 2016	13	2.28	9.60	Rp	127,628,308			Rp 536,631,733
	14	2.72	12.31	Rp	151,845,248			Rp 688,476,981
	15	3.51	15.82	Rp	196,531,934			Rp 885,008,916
	16	4.82	20.65	Rp	269,630,181	Rp	745,635,671	Rp 1,154,639,097
MEI 2016	17	5.33	25.97	Rp	297,985,813			Rp 1,452,624,910
	18	5.22	31.19	Rp	291,945,560			Rp 1,744,570,469
	19	5.22	36.41	Rp	291,945,560			Rp 2,036,516,029
	20	5.22	41.63	Rp	291,945,560	Rp	1,173,822,493	Rp 2,328,461,589
JUNI 2016	21	5.22	46.85	Rp	291,945,560			Rp 2,620,407,149
	22	5.22	52.07	Rp	291,945,560			Rp 2,912,352,709
	23	0.00	52.07	Rp	-			Rp 2,912,352,709
	24	5.50	57.57	Rp	307,661,403	Rp	891,552,523	Rp 3,220,014,112
JULI 2016	25	5.22	62.79	Rp	291,945,560			Rp 3,511,959,672
	26	5.22	68.01	Rp	291,945,560			Rp 3,803,905,232
	27	5.22	73.23	Rp	291,945,560			Rp 4,095,850,792
	28	5.22	78.45	Rp	291,945,560	Rp	1,167,782,240	Rp 4,387,796,352
AGUSTUS 2016	29	5.28	83.73	Rp	295,301,256			Rp 4,683,097,608
	30	5.28	89.01	Rp	295,189,399			Rp 4,978,287,007
	31	4.39	93.40	Rp	245,329,348			Rp 5,223,616,356
	32	4.13	97.53	Rp	231,179,497	Rp	1,066,999,500	Rp 5,454,795,852
SEPTEMBER 2016	33	1.99	99.52	Rp	111,325,218			Rp 5,566,121,070
	34	0.30	100	Rp	16,526,803	Rp	127,852,021	Rp 5,582,647,873
TOTAL				**Rp**	**5,582,647,873**	**Rp**	**5,582,647,873**	

Tabel 4.5 Calculation *Cashflow*

CONCLUSIONS AND RECOMMENDATIONS

1. Conclusion

Based on the calculations and research conducted during the works of this thesis it can be concluded some conclusions as follows:

1. From the calculation results done and the data obtained from the relevant authorities as well as the calculation of the volume of work, it can be concluded that for the needs of the labor, tools, and materials of different job every item - vary according to the volume of work and the coefficient analysis.
2. Based on the calculation of the RAB (Budget Plan) to complete the project Cipager Check Dam River District Brass until the final stages of the implementation cost of Rp. 6.141096 billion *(Billion Six Hundred Forty-One Million Ninety-Six Thousand)*
3. Of the estimated weight calculation completion work

Check Dam takes 34 Sunday, while based on the analysis of scheduling *Critical Path Method* the Project check takes 74 Sunday.

4. Viewed from the implementation of existing projects can be seen that when viewed from the performance time of the planning of the writer is faster than the data earlier project as seen from the calculation of the weight of the work, whereas for budget planning costs created by the author is greater because the authors used data unit price of wages and material Year 2016.
5. By using the CPM method is known trajectory - which occurred in the critical path of the project, namely the Employment Preparation - Site Work - Construction Work

2. Suggestions

Based on the calculations and research conducted authors can provide advice, as follows:

1. Needed study on identification of the problems that will occur in the project because it would affect the scheduling of the project implementation time and cost planning.
2. In planning the completion time project scheduling, not only analyzed by calculating the weight of work alone but is heavily influenced by the experience in the field.
3. CPM method is very helpful to overcome the probability of the project completion time.
4. For the method of implementation in the field with the plan should be appropriate in order to obtain maximum results.
5. Prices of wages and materials in accordance with the provisions established on the territory of Majalengka in order to get the budget in accordance with the existing tag field.

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