

CHAPTER V

CONCLUSION

The design of the Muntilan Indonesian Christian Church in terms of the aspects of structural planning, geotechnical planning, and planning of time costs, it can be concluded as follows:

5.1 Structure Design

1. In the roof design, the purlin used is a C200 profile, the sag-rod used is 10 mm in diameter, the trusses use the IWF 200 x 100 profile. The roof profile is safe against deflection and stress.
2. Ladder reinforcement consists of bearing tension reinforcement D10-200 and reinforcement for d8-150. Bordes measures 392 x 198 and uses D16 as tension reinforcement and d10 as stirrups. The landing plate itself has D16 main reinforcement, while the stirrup reinforcement uses D10 reinforcement. The landing beam has D16 main reinforcement and D10 stirrup reinforcement. The floor plate itself has 4 types of floors, namely floor plates measuring 4 x 3 meters, size 4 x 4 meters, size 4 x 1.5 meters, size 4 x 2 meters. The floor slab used uses D8-200 main reinforcement. Floor slab reinforcement includes field reinforcement and supports which in their determination have met the safety requirements for floor slabs.
3. The beam consists of main beam 1, main beam 2 and child beam. Main beam 1 measuring 400 x 550 which has 5D25 as reinforcement for the abutment, 5D25 as reinforcement under the abutment, 4d13-150 as stirrups. Main beam 2 measuring 400 x 500 which has 5D25 reinforcement as reinforcement for the pedestals, 5D25 as reinforcement under the abutments, 4d13-150 as stirrups. The child beam has a size of 250 x 350 has reinforcement 3D22 as the top reinforcement, 3D22 as the bottom reinforcement, 2d13-150 as stirrups.

4. The column consists of one type of column with a size of 60 x 60 cm with a diameter of 25 mm main reinforcement, 13 mm diameter of stirrup shear reinforcement and 40 mm concrete cover with concrete quality of 30 Mpa and F_y 420. Has a requirement of 7D25 as main reinforcement and stirrup reinforcement 2D13-150. The distance between the column reinforcement is 471 mm and the distance between the stirrup reinforcement is 268 mm.

5.2 Geotechnical Design

1. From the soil data obtained, it is known that at a depth of 2-3 meters is a type of clay soil, at a depth of 4-10 meters is a type of sandy soil, at a depth of 11-19 meters is a clay soil, at a depth of 20 meters is a sandy loam soil, and at a depth of 21-40 meters is clay soil.
2. The potential for liquefaction occurs to a depth of 4-10 meters, so a deep foundation is placed at a depth of 18 m. The designed foundation has a diameter of 0.45 meters.
3. Checking that the bearing capacity of the foundation per column is calculated to be greater than the vertical pressure (F_z) received per column so that the bearing capacity of the foundation per column meets the safe requirements. Permissible stress per pile is the settlement that occurs at each point of the foundation that meets the permit reduction requirements based on SNI 9460: 2017 article 9.2.4.3 which has a limit of $15 \text{ cm} + b/600$ (b in cm units). The difference in settlement between adjacent foundations has also fulfilled the safe requirement.
4. In this building there are 120 pile caps each having a size of 2.245 x 2.245 m. The pile cap is secure against shear stability, overturning and bearing capacity. The pile cap uses 16 diameter reinforcement and 13 stirrup reinforcement.

5.3 Cost and Time Management

The total costs incurred for the construction of the Muntilan Indonesian Christian Church amounted to Rp. 31,733,896,719.37 and took 323 days to complete.

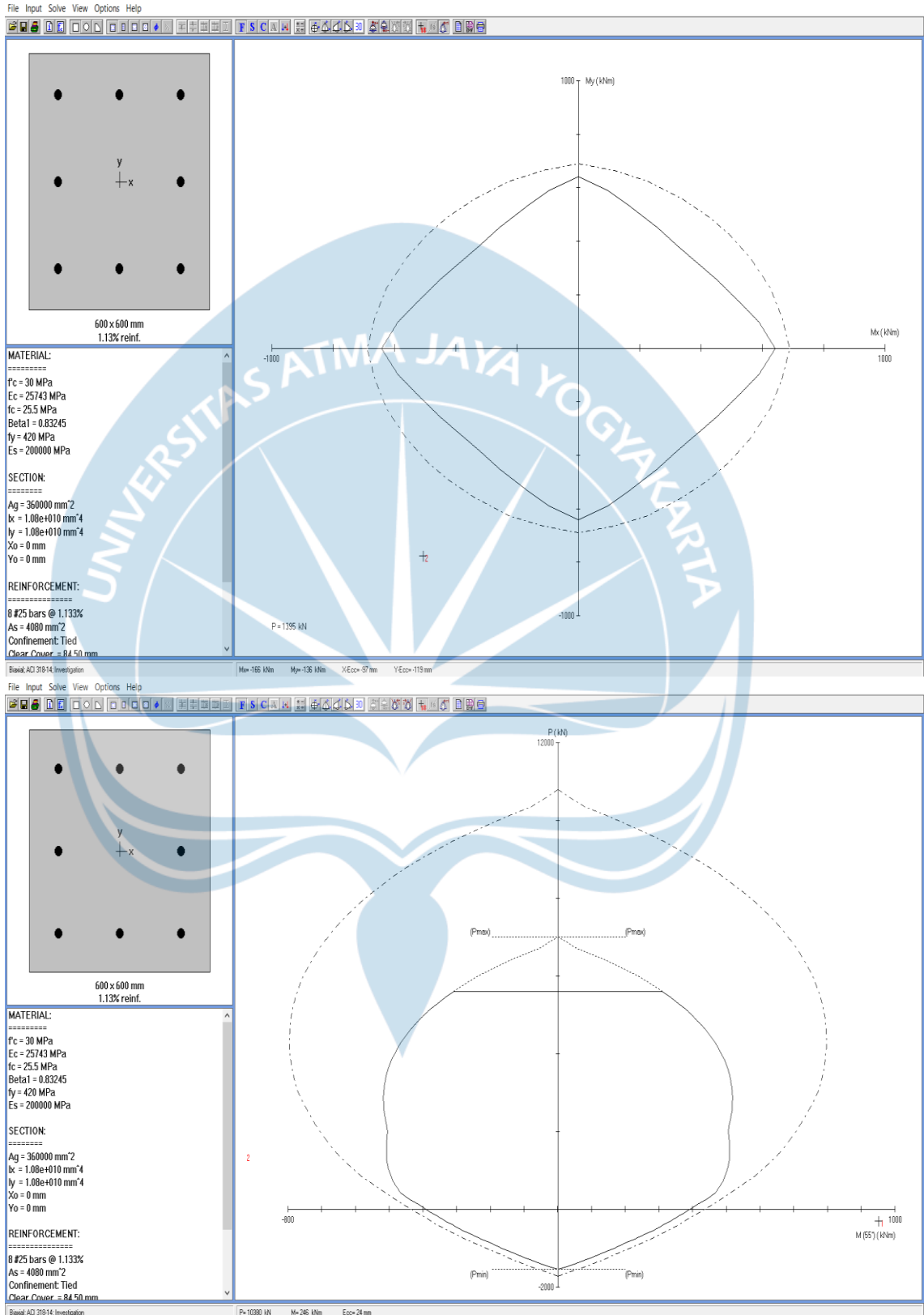
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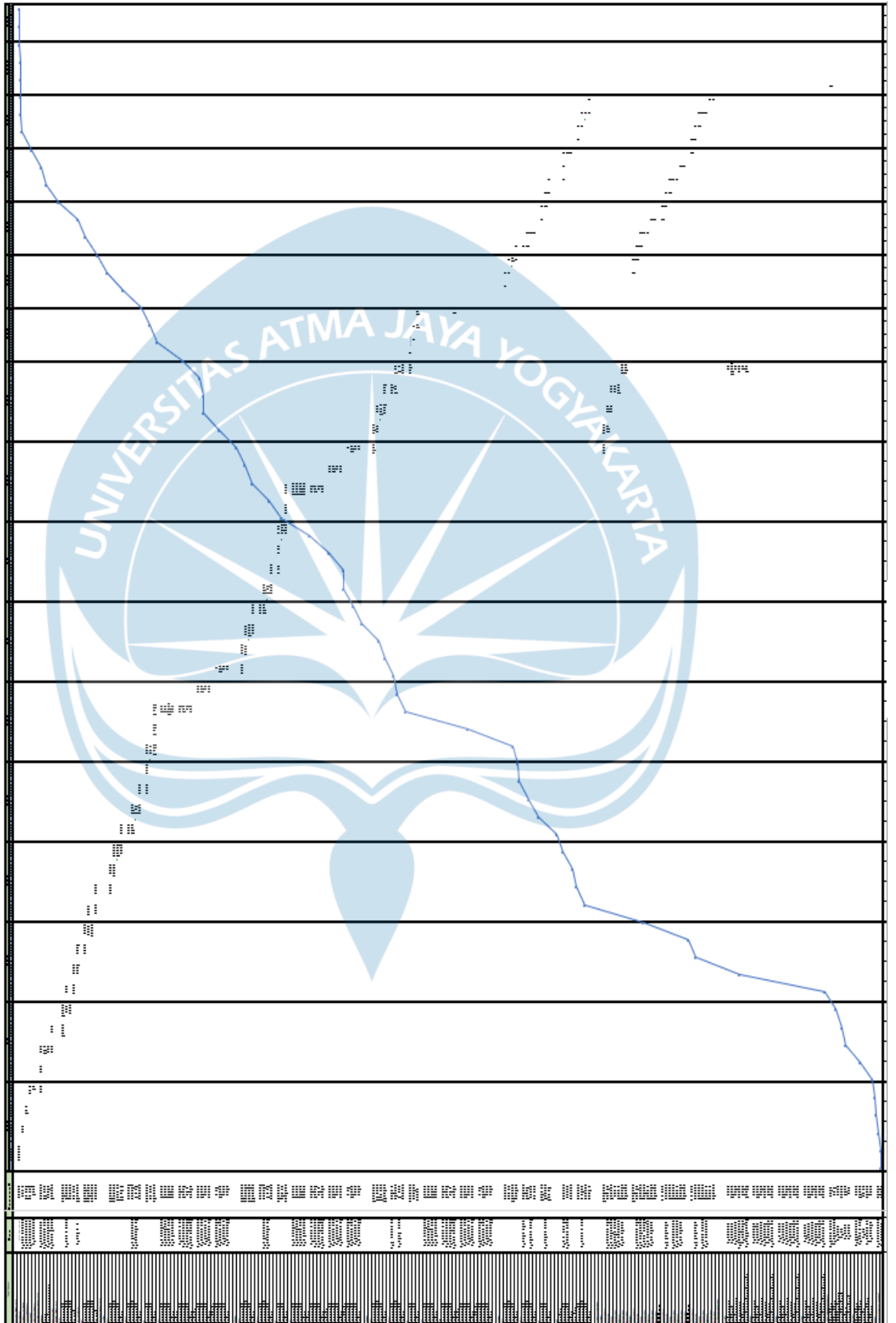


APPENDIX

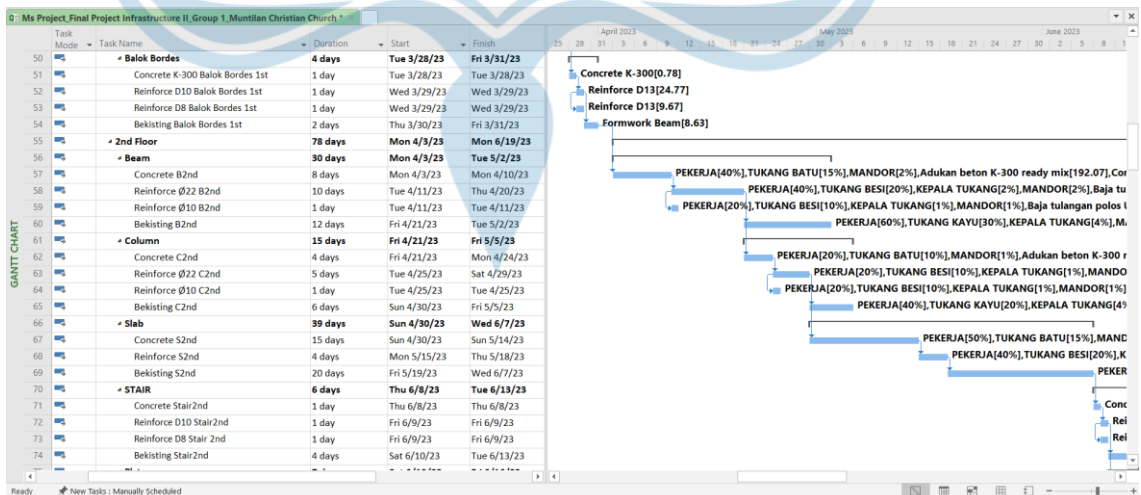
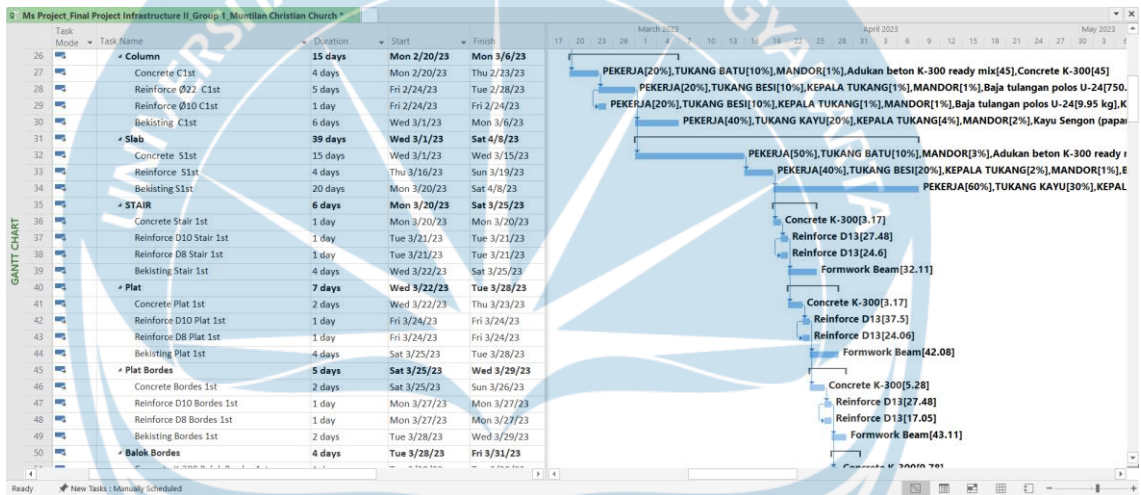
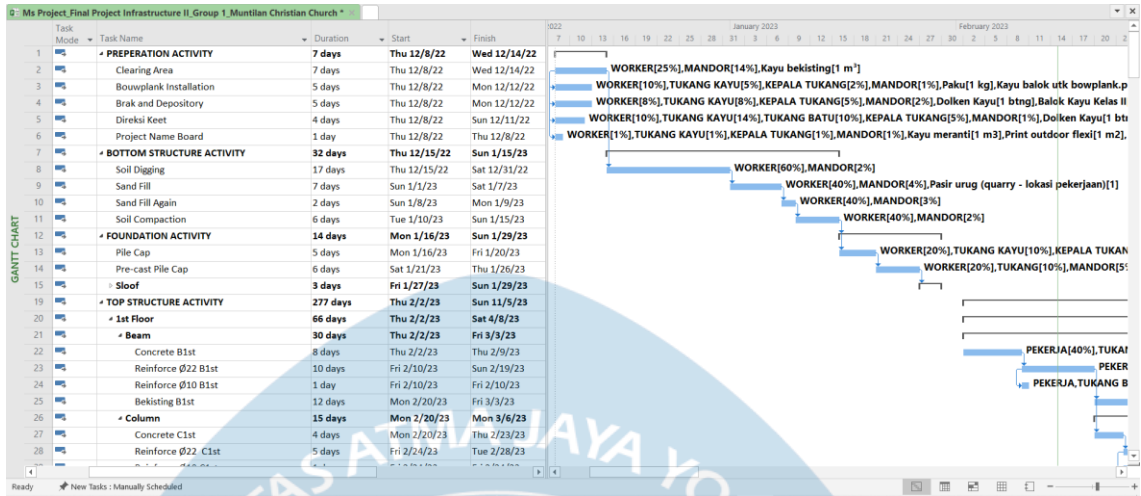
Appendix 1 SP Column

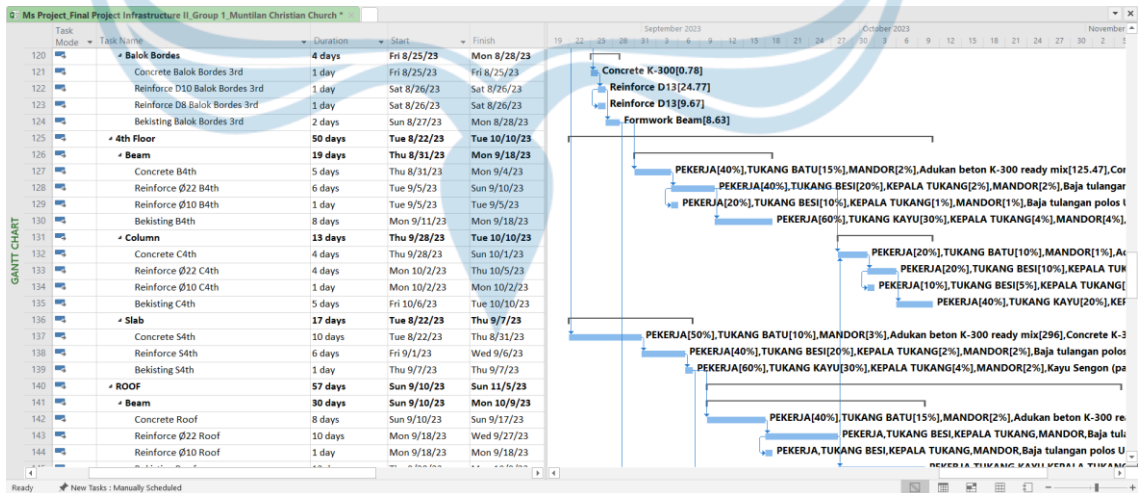
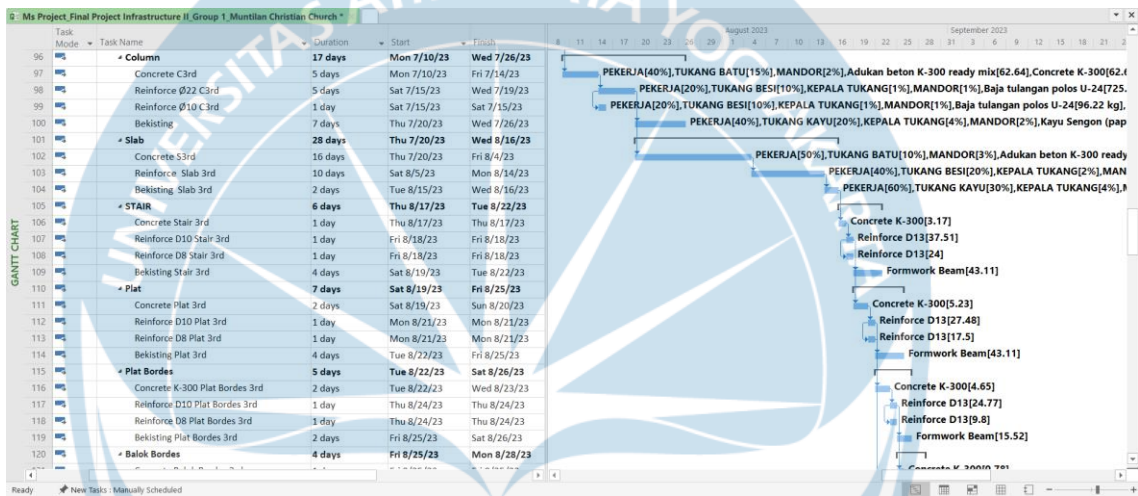
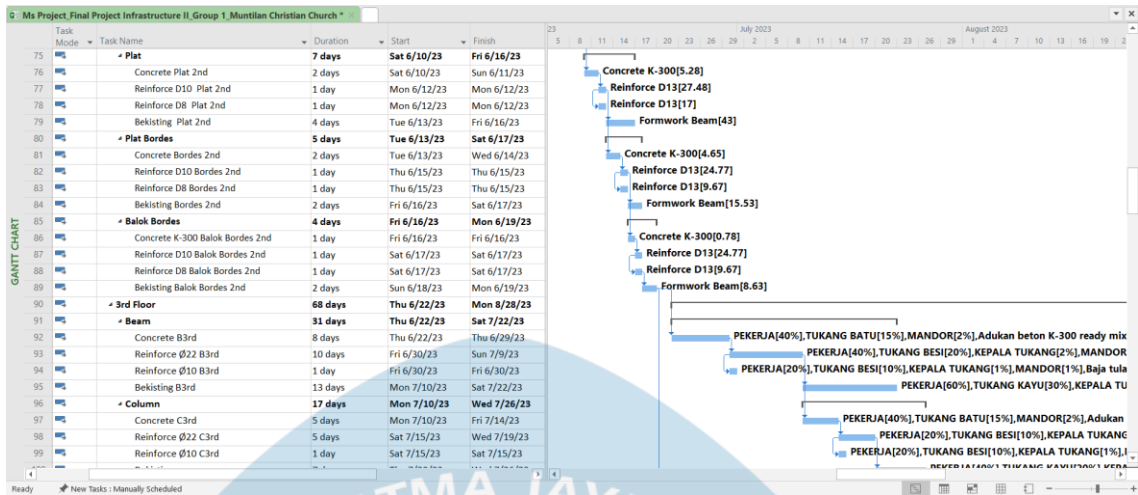


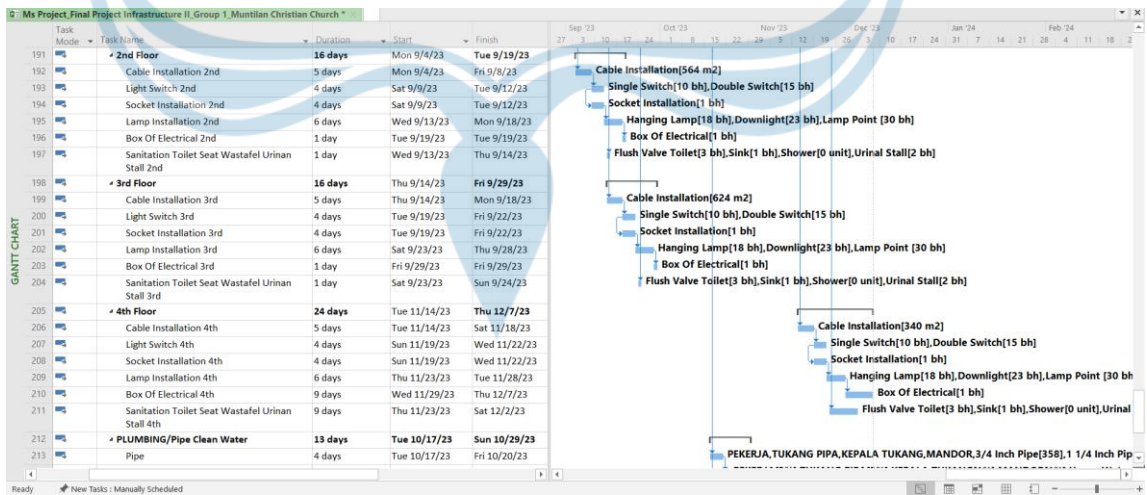
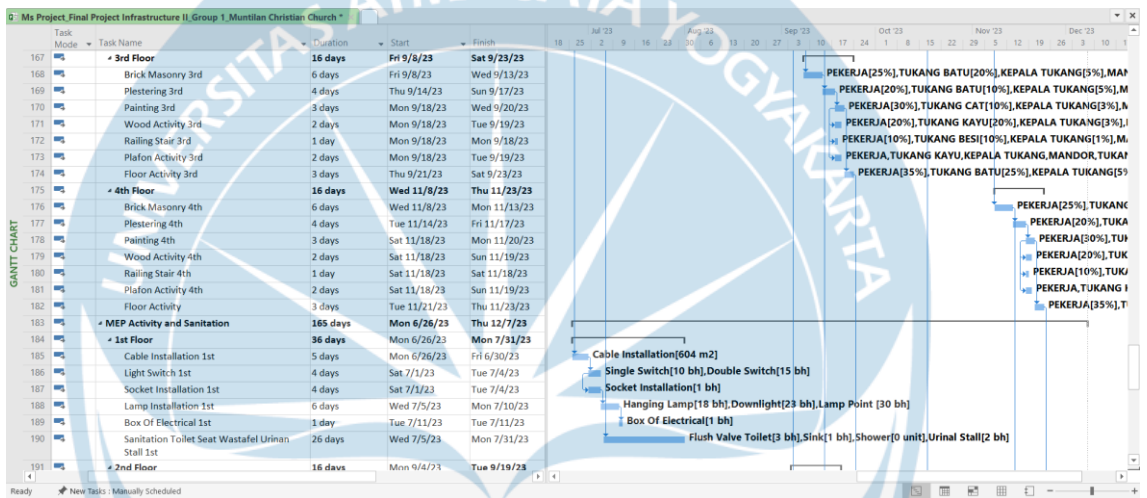
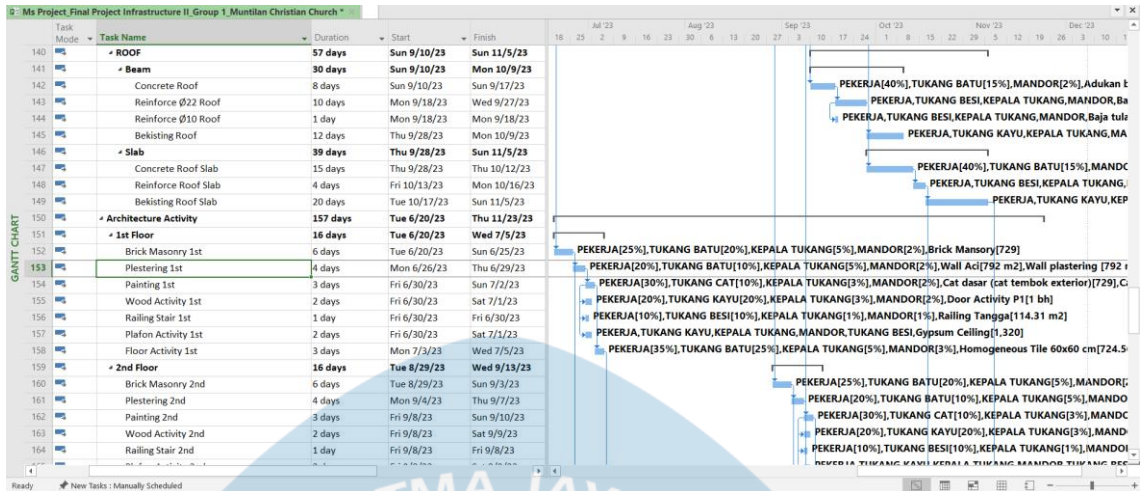
Appendix 2 S- Curve

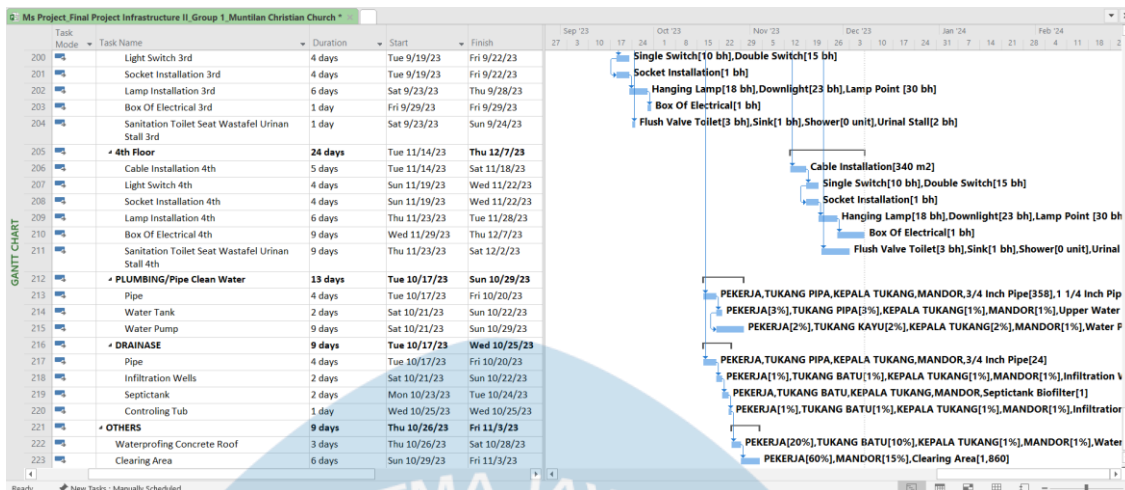


Appendix 3 Grand Chart









Appendix 4 AHSP

Appendix 4.1 Preparation Work

Installation 1 m² Bouwplank

No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)
A						
WORK						
1	Worker	L.01	OH	0,1	Rp 72.600,00	Rp 7.260,00
2	Carpenter	L.02	OH	0,1	Rp 87.000,00	Rp 8.700,00
3	Foreman	L.03	OH	0,01	Rp 89.900,00	Rp 899,00
4	Foreman	L.04	OH	0,005	Rp 87.000,00	Rp 435,00
TOTAL LABOR						Rp 17.294,00
B						
MATERIAL						
1	Block wood 5/7		m ³	0,012	Rp 324.170,00	Rp 3.890,04
2	Nail 2"-3"		Kg	0,02	Rp 19.200,00	Rp 384,00
3	Plank Wood 3/20		m ³	0,007	Rp 10.214.200,00	Rp 71.499,40
TOTAL MATERIAL PRICE						Rp 75.773,44
C						
EQUIPMENT						
TOTAL EQUIPMENT PRICE						Rp
TOTAL (A+B+C)						Rp 93.066,44
Overhead & Profit (Contoh 15 %)						Rp 139,60
Work Unit Price (D+E)						Rp 93.206,04

Membuat Papan Nama Proyek 8x120cm

No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah (Rp)
A						
Tenaga						
1	Pekerja	L.01	OH	1	Rp 72.600,00	Rp 72.600,00
2	Tukang batu	L.02	OH	0,0175	Rp 80.000,00	Rp 1.400,00
3	Tukang kayu	L.02	OH	1	Rp 87.000,00	Rp 87.000,00
4	Mandor	L.04	OH	0,1	Rp 87.000,00	Rp 8.700,00
Jumlah Harga Tenaga Kerja						Rp 169.700,00
B						
Bahan						
1	Meranti Wood		m ³	0,035	Rp 7.000.000,00	Rp 245.000,00
2	Print outdoor flexi		m ²	1	Rp 35.000,00	Rp 35.000,00
3	Nail		kg	0,6	Rp 23.000,00	Rp 13.800,00
4	PC		kg	16,8	Rp 1.100,00	Rp 18.480,00
5	Concrete Sand		m ³	0,027	Rp 292.600,00	Rp 7.900,20
6	Kerikil beton		m ³	0,0405	Rp 350.000,00	Rp 14.175,00
Jumlah Harga Bahan						Rp 334.355,20
C						
Peralatan						
Jumlah Harga Peralatan						Rp
Jumlah Harga Tenaga, Bahan dan Peralatan (A + B + C)						Rp 504.055,20
Overhead & Profit (Contoh 15 %)						Rp 75.608,28
Harga Satuan Pekerjaan (D + E)						Rp 579.663,48

K3) Pembersihan 1 m ² lapangan dan perataan							
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA						
	Pekerja Mandor	L.01 L.04	OH OH	0,1 0,05	Rp Rp	72.600,00 87.000,00	Rp Rp
					TOTAL LABOR	Rp	11.610,00
B	BAHAN						
					JUMLAH HARGA BAHAN		
C	PERALATAN						
					JUMLAH HARGA ALAT		
D	Jumlah (A+B+C)					Rp	11.610,00
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp	1.741,50
F	Harga Satuan Pekerjaan (D+E)					Rp	13.351,50

Direksi Keet 1m2								
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)		
A	WORK							
	1 Worker	L.01	OH	1	Rp	86.765,00	Rp	173.530,00
	2 Carpenter	L.02	OH	1,5	Rp	100.193,00	Rp	60.115,80
	3 Mansory	L.03	OH	1	Rp	100.193,00	Rp	40.077,20
	4 Kepala tukang	L.04	OH	0,3	Rp	90.896,00	Rp	9.089,60
	5 Foreman	L.05	OH	0,05	Rp	90.896,01	Rp	9.089,61
					TOTAL LABOR	Rp	282.812,60	
B	MATERIAL							
	1 Dolken Kayu	btng	btng	1,25	Rp	6.400,00	Rp	8.000,00
	2 Balok Kayu Kelas II	m3	m3	2,5	Rp	1.425,00	Rp	3.562,50
	3 Paku Usuk	kg	kg	1,2	Rp	48.000,00	Rp	57.600,00
	4 Pekerjaan Beton K-100	m3	m3	0,005	Rp	266.000,00	Rp	1.330,00
	5 Seng Gelombang 0.8x1.5 m	lmbr	lmbr	0,009	Rp	339.000,00	Rp	3.051,00
	6				Rp	37.000,00	Rp	2.664,00
	7				Rp	20.000,00	Rp	1.200,00
8 Nail 2"-3"				Rp	38.000,00	Rp	17.100,00	
7 Plank Wood 3/20				Rp	48.000,00	Rp	57.600,00	
					TOTAL MATERIAL PRICE	Rp	1.849.251,39	
C	EQUIPMENT							
					TOTAL EQUIPMENT PRICE			
D	TOTAL (A+B+C)					Rp	2.131.068,99	
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp	213.206,40	
F	Work Unit Price (D+E)					Rp	2.345.270,40	

Temporary Warehouse 1m2								
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)		
A	WORK							
	1 Worker	L.01	OH	1	Rp	86.765,00	Rp	173.530,00
	2 Carpenter	L.02	OH	1,5	Rp	100.193,00	Rp	60.115,80
	3 Mansory	L.03	OH	1	Rp	100.193,00	Rp	40.077,20
	4 Kepala tukang	L.04	OH	0,3	Rp	90.896,00	Rp	9.089,60
	5 Foreman	L.05	OH	0,05	Rp	90.896,01	Rp	9.089,61
					TOTAL LABOR	Rp	282.812,60	
B	MATERIAL							
	1 Dolken Kayu	btng	btng	1,25	Rp	6.400,00	Rp	8.000,00
	2 Balok Kayu Kelas II	m3	m3	2,5	Rp	1.425,00	Rp	3.562,50
	3 Paku Usuk	kg	kg	1,2	Rp	48.000,00	Rp	57.600,00
	4 Pekerjaan Beton K-100	m3	m3	0,005	Rp	266.000,00	Rp	1.330,00
	5 Seng Gelombang 0.8x1.5 m	lmbr	lmbr	0,009	Rp	339.000,00	Rp	3.051,00
					TOTAL MATERIAL PRICE	Rp	1.849.251,39	
C	EQUIPMENT							
					TOTAL EQUIPMENT PRICE			
D	TOTAL (A+B+C)					Rp	2.131.068,99	
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp	213.206,40	
F	Work Unit Price (D+E)					Rp	2.345.270,40	

Pengukuran dan pemasangan 1 m ² Bouwplank								
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)		
A	WORK							
	1 Worker	L.01	OH	0,1	Rp	72.600,00	Rp	7.260,00
	2 Carpenter	L.02	OH	0,1	Rp	87.000,00	Rp	8.700,00
	3 Kepala tukang	L.03	OH	0,01	Rp	89.900,00	Rp	899,00
	4 Foreman	L.04	OH	0,005	Rp	87.000,00	Rp	435,00
					TOTAL LABOR	Rp	17.294,00	
B	MATERIAL							
	1 Block wood 5/7		m3	0,012	Rp	324.170,00	Rp	3.890,04
	2 Nail 2"-3"		Kg	0,02	Rp	19.200,00	Rp	384,00
	3 Plank Wood 3/20		m3	0,007	Rp	10.214.200,00	Rp	71.499,40
					TOTAL MATERIAL PRICE	Rp	75.773,44	
C	EQUIPMENT							
					TOTAL EQUIPMENT PRICE			
D	TOTAL (A+B+C)					Rp	93.066,44	
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp	139,60	
F	Work Unit Price (D+E)					Rp	93.206,04	

Appendix 4.2 Soil Activity

Soil Digging 1m3						
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)
A	WORK					
	1 Worker	L.01	OH	0,75	Rp 72.600,00	Rp 54.450,00
	2 Foreman	L.02	OH	0,025	Rp 87.000,00	Rp 2.175,00
					TOTAL LABOR	Rp 56.625,00
B	MATERIAL					TOTAL MATERIAL PRICE
C	EQUIPMENT					TOTAL EQUIPMENT PRICE
D	TOTAL (A+B+C)					Rp 56.625,00
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp 8.493,75
F	Work Unit Price (D+E)					Rp 65.118,75

Sand Fill Again 1m3						
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)
A	WORK					
	1 Worker	L.01	OH	0,5	Rp 72.600,00	Rp 36.300,00
	2 Foreman	L.02	OH	0,05	Rp 87.000,00	Rp 4.350,00
					TOTAL LABOR	Rp 40.650,00
B	MATERIAL					TOTAL MATERIAL PRICE
C	EQUIPMENT					TOTAL EQUIPMENT PRICE
D	TOTAL (A+B+C)					Rp 40.650,00
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp 6.097,50
F	Work Unit Price (D+E)					Rp 46.747,50

Sand Fill 1m3						
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)
A	WORK					
	1 Worker	L.01	OH	0,3	Rp 72.600,00	Rp 21.780,00
	2 Foreman	L.02	OH	0,01	Rp 87.000,00	Rp 870,00
					TOTAL LABOR	Rp 22.650,00
B	MATERIAL					TOTAL MATERIAL PRICE
	Sand Fill		Kg	1,2	Rp 133,00	Rp 159,60
						Rp 159,60
C	EQUIPMENT					TOTAL EQUIPMENT PRICE
D	TOTAL (A+B+C)					Rp 56.625,00
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp 8.493,75
F	Work Unit Price (D+E)					Rp 65.118,75

Soil Digging 1m3						
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)
A	WORK					
	1 Worker	L.01	OH	0,5	Rp 72.600,00	Rp 36.300,00
	2 Foreman	L.02	OH	0,05	Rp 87.000,00	Rp 4.350,00
					TOTAL LABOR	Rp 40.650,00
B	MATERIAL					TOTAL MATERIAL PRICE
C	EQUIPMENT					TOTAL EQUIPMENT PRICE
D	TOTAL (A+B+C)					Rp 40.650,00
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp 6.097,50
F	Work Unit Price (D+E)					Rp 46.747,50

Appendix 4.3 Foundation Activity

Precast Bore Pile							
No	Description	Code	Unit	Koefisien	Unit Price (Rp)	Total Price (Rp)	
A	WORK						
	1 Worker	L.01	OH	0,2405	Rp 86.765,00	Rp 20.866,98	
	3 Mansory	L.02	OH	0,0481	Rp 86.765,00	Rp 4.173,40	
	5 Foreman	L.03	OH	0,0481	Rp 90.896,00	Rp 4.372,10	
					TOTAL LABOR	Rp 29.412,48	
B	MATERIAL					TOTAL MATERIAL PRICE	
	1 Precast bore pile	btng	btng	1,25	Rp 6.400,00	Rp 8.000,00	
						TOTAL MATERIAL PRICE	Rp 1.849.251,39
C	EQUIPMENT					TOTAL EQUIPMENT PRICE	
	1 Crane (di base camp)		Jam	0,0335	Rp 344.400,00	Rp 14.937,65	
	2 Trailer 28 ton		Jam	0,0041	Rp 359.800,00	Rp 1.412,04	
	3 Crane (di lokasi)		Jam	0,1205	Rp 50.300,00	Rp 43.355,90	
	4 Pile Driver Hammer		Jam	0,0481	Rp 50.000,00	Rp 2.419,43	
	5 Welding set		Jam	0,1786	Rp 100.193,00	Rp 8.930,00	
						TOTAL EQUIPMENT PRICE	Rp 71.055,02
D	TOTAL (A+B+C)					Rp 664.867,50	
E	Overhead & Profit (Contoh 15 %)			15% x D (Max)		Rp 66.486,75	
F	Work Unit Price (D+E)					Rp 731.354,25	

Appendix 4.4 Structure Activity

Pembesian 10 kg dengan besi polos atau besi ulir						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,07	Rp 72.600,00	Rp 5.082,00
	Tukang besi	L.02	OH	0,07	Rp 80.000,00	Rp 5.600,00
	Kepala tukang	L.03	OH	0,007	Rp 89.800,00	Rp 628,60
	Mandor	L.04	OH	0,004	Rp 87.000,00	Rp 348,00
JUMLAH TENAGA KERJA						Rp 11.658,60
B	BAHAN					
	Besi beton (polos/ulir)		kg	10,5	Rp 10.600,00	Rp 111.300,00
	Kawat beton		kg	0,15	Rp 18.800,00	Rp 2.820,00
JUMLAH HARGA BAHAN						Rp 114.120,00
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 125.778,60
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp 18.866,79
F	Harga Satuan Pekerjaan (D+E)					Rp 144.645,39

1. Beton Struktur K-300 Ready Mix						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp.)	Jumlah Harga (Rp.)
A.	TENAGA KERJA					
	1 Pekerja	L.01	OH	Rp 1,65	Rp 84.000	Rp 138.600
	2 Tukang Batu	L.02	OH	Rp 0,28	Rp 112.000	Rp 30.800
	3 Mandor	L.17	OH	Rp 0,08	Rp 140.000	Rp 11.200
JUMLAH HARGA TENAGA KERJA						Rp 181.020
B.	BAHAN					
	1 Adukan beton K-300 ready m.493		m ³	Rp 10,60	Rp 1.266.687	Rp 1.266.687
JUMLAH HARGA BAHAN						Rp 1.266.687
C.	PERALATAN					
	1 Concrete vibrator	E.18	jam	0,0569	58.500,00	3.328,65
	2 Alat bantu	E.48	set	0,1000	50.000,00	5.000,00
JUMLAH HARGA ALAT						8.328,65
D	Jumlah (A+B+C)					Rp 1.456.036
E	Overhead & Profit					Rp 145,604
F	Harga Satuan Pekerjaan (D+E)					1601639,22

K3) Pemasangan 1 m2 bekisting untuk pondasi						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,52	Rp 72.600,00	Rp 37.752,00
	Tukang kayu	L.02	OH	0,26	Rp 87.000,00	Rp 22.620,00
	Kepala tukang	L.03	OH	0,026	Rp 89.800,00	Rp 2.334,80
	Mandor	L.04	OH	0,026	Rp 87.000,00	Rp 2.262,00
JUMLAH TENAGA KERJA						Rp 64.968,80
B	BAHAN					
	Kayu kelas III		m ³	0,04	Rp 2.000.000,00	Rp 80.000,00
	Paku 5 - 10 cm		kg	0,3	Rp 20.000,00	Rp 6.000,00
	Minyak bekisting		Liter	0,1	Rp 16.800,00	Rp 1.680,00
JUMLAH HARGA BAHAN						Rp 87.680,00
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 152.648,80
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp 22.897,32
F	Harga Satuan Pekerjaan (D+E)					Rp 175.546,12

K3) Pemasangan 1 m2 bekisting untuk sloof						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,52	Rp 72.600,00	Rp 37.752,00
	Tukang kayu	L.02	OH	0,26	Rp 87.000,00	Rp 22.620,00
	Kepala tukang	L.03	OH	0,026	Rp 89.800,00	Rp 2.334,80
	Mandor	L.04	OH	0,026	Rp 87.000,00	Rp 2.262,00
JUMLAH TENAGA KERJA						Rp 64.968,80
B	BAHAN					
	Kayu kelas III		m ³	0,045	Rp 2.000.000,00	Rp 90.000,00
	Paku 5 cm - 10 cm		kg	0,3	Rp 20.000,00	Rp 6.000,00
	Minyak bekisting		Liter	0,1	Rp 16.800,00	Rp 1.680,00
JUMLAH HARGA BAHAN						Rp 97.680,00
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 162.648,80
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp 24.397,32
F	Harga Satuan Pekerjaan (D+E)					Rp 187.046,12

K3) Pemasangan 1 m2 bekisting untuk kolom						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,66	Rp 72.600,00	Rp 47.916,00
	Tukang kayu	L.02	OH	0,33	Rp 87.000,00	Rp 28.710,00
	Kepala tukang	L.03	OH	0,033	Rp 89.800,00	Rp 2.963,40
	Mandor	L.04	OH	0,033	Rp 87.000,00	Rp 2.871,00
	JUMLAH TENAGA KERJA					Rp 82.460,40
B	BAHAN					
	Kayu kelas III		m ³	0,04	Rp 2.000.000,00	Rp 80.000,00
	Paku 5 cm – 12 cm		kg	0,4	Rp 23.000,00	Rp 9.200,00
	Minyak bekisting		Liter	0,2	Rp 16.800,00	Rp 3.360,00
	Balok kayu kelas II		m ³	0,015	Rp 1.600.000,00	Rp 24.000,00
	Plywood tebal 9 mm		Lbr	0,35	Rp 100.000,00	Rp 35.000,00
	Dolken kayu □ 8-10cm – panj 4 m		Batang	2	Rp 39.000,00	Rp 78.000,00
	JUMLAH HARGA BAHAN					Rp 229.560,00
C	PERALATAN					
	JUMLAH HARGA ALAT					
D	Jumlah (A+B+C)					Rp 312.020,40
E	Overhead & Profit (Contoh 15 %)				15% x D (maksimum)	Rp 46.803,06
F	Harga Satuan Pekerjaan (D+E)					Rp 358.823,46

K3) Pemasangan 1 m2 bekisting untuk balok						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,66	Rp 72.600,00	Rp 47.916,00
	Tukang kayu	L.02	OH	0,33	Rp 87.000,00	Rp 28.710,00
	Kepala tukang	L.03	OH	0,033	Rp 89.800,00	Rp 2.963,40
	Mandor	L.04	OH	0,033	Rp 87.000,00	Rp 2.871,00
	JUMLAH TENAGA KERJA					Rp 82.460,40
B	BAHAN					
	Kayu kelas III		m ³	0,04	Rp 2.000.000,00	Rp 80.000,00
	Paku 5 cm – 12 cm		kg	0,4	Rp 23.000,00	Rp 9.200,00
	Minyak bekisting		Liter	0,2	Rp 16.800,00	Rp 3.360,00
	Balok kayu kelas II		m ³	0,018	Rp 1.600.000,00	Rp 28.800,00
	Plywood tebal 9 mm		Lbr	0,35	Rp 100.000,00	Rp 35.000,00
	Dolken kayu □ 8-10cm – panjang 4 m		Batang	2	Rp 39.000,00	Rp 78.000,00
	JUMLAH HARGA BAHAN					Rp 234.360,00
C	PERALATAN					
	JUMLAH HARGA ALAT					
D	Jumlah (A+B+C)					Rp 316.820,40
E	Overhead & Profit (Contoh 15 %)				15% x D (maksimum)	Rp 47.523,06
F	Harga Satuan Pekerjaan (D+E)					Rp 364.343,46

K3) Pemasangan 1 m2 bekisting untuk lantai						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,66	Rp 72.600,00	Rp 47.916,00
	Tukang kayu	L.02	OH	0,33	Rp 87.000,00	Rp 28.710,00
	Kepala tukang	L.03	OH	0,033	Rp 89.800,00	Rp 2.963,40
	Mandor	L.04	OH	0,033	Rp 87.000,00	Rp 2.871,00
	JUMLAH TENAGA KERJA					Rp 82.460,40
B	BAHAN					
	Kayu kelas III		m ³	0,04	Rp 2.000.000,00	Rp 80.000,00
	Paku 5 cm – 12 cm		kg	0,4	Rp 23.000,00	Rp 9.200,00
	Minyak bekisting		Liter	0,2	Rp 16.800,00	Rp 3.360,00
	Balok kayu kelas II		m ³	0,015	Rp 1.600.000,00	Rp 24.000,00
	Plywood tebal 9 mm		Lbr	0,35	Rp 100.000,00	Rp 35.000,00
	Dolken kayu □ 8-10cm panjang 4m		Batang	6	Rp 39.000,00	Rp 234.000,00
	JUMLAH HARGA BAHAN					Rp 385.560,00
C	PERALATAN					
	JUMLAH HARGA ALAT					
D	Jumlah (A+B+C)					Rp 468.020,40
E	Overhead & Profit (Contoh 15 %)				15% x D (maksimum)	Rp 70.203,06
F	Harga Satuan Pekerjaan (D+E)					Rp 538.223,46

K3) Pemasangan 1 m2 bekisting untuk dinding						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,66	Rp 72.600,00	Rp 47.916,00
	Tukang kayu	L.02	OH	0,33	Rp 87.000,00	Rp 28.710,00
	Kepala tukang	L.03	OH	0,033	Rp 89.800,00	Rp 2.963,40
	Mandor	L.04	OH	0,033	Rp 87.000,00	Rp 2.871,00
	JUMLAH TENAGA KERJA					Rp 82.460,40
B	BAHAN					
	Kayu kelas III		m ³	0,03	Rp 2.000.000,00	Rp 60.000,00
	Paku 5 cm – 12 cm		kg	0,4	Rp 23.000,00	Rp 9.200,00
	Minyak bekisting		Liter	0,2	Rp 16.800,00	Rp 3.360,00
	Balok kayu kelas II		m ³	0,02	Rp 1.600.000,00	Rp 32.000,00
	Plywood tebal 9 mm		Lbr	0,35	Rp 100.000,00	Rp 35.000,00
	Dolken kayu □ 10 cm, panj 4 m		Batang	3	Rp 39.000,00	Rp 117.000,00
	Bekisting/spacer		Buah	4	Rp 302.000,00	Rp 1.208.000,00
	JUMLAH HARGA BAHAN					Rp 1.464.560,00
C	PERALATAN					
	JUMLAH HARGA ALAT					
D	Jumlah (A+B+C)					Rp 1.547.020,40
E	Overhead & Profit (Contoh 15 %)				15% x D (maksimum)	Rp 232.053,06
F	Harga Satuan Pekerjaan (D+E)					Rp 1.779.073,46

K3) Pemasangan 1 m2 bekisting untuk tangga						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,66	Rp 72.600,00	Rp 47.916,00
	Tukang kayu	L.02	OH	0,33	Rp 87.000,00	Rp 28.710,00
	Kepala tukang	L.03	OH	0,033	Rp 89.800,00	Rp 2.963,40
	Mandor	L.04	OH	0,033	Rp 87.000,00	Rp 2.871,00
						JUMLAH TENAGA KERJA
						Rp 82.460,40
B	BAHAN					
	Kayu kelas III		m ³	0,03	Rp 2.000.000,00	Rp 60.000,00
	Paku 5 cm – 12 cm		kg	0,4	Rp 23.000,00	Rp 9.200,00
	Minyak bekisting		Liter	0,15	Rp 16.800,00	Rp 2.520,00
	Balok kayu kelas II		m ³	0,015	Rp 1.600.000,00	Rp 24.000,00
	Plywood tebal 9 mm		Lbr	0,35	Rp 100.000,00	Rp 35.000,00
Dolken kayu, □ 8 – 10 cm, panjang 4 m		Batang	2	Rp 39.000,00	Rp 78.000,00	
						JUMLAH HARGA BAHAN
						Rp 208.720,00
C	PERALATAN					
						JUMLAH HARGA ALAT
						Rp 291.180,40
D	Jumlah (A+B+C)					Rp 43.677,06
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp 334.857,46
F	Harga Satuan Pekerjaan (D+E)					Rp 1.680,00
	Minyak bekisting		Liter	0,1	16.800,00	Rp 1.680,00
						JUMLAH HARGA BAHAN
						Rp 97.680,00
C	PERALATAN					
						JUMLAH HARGA ALAT
						Rp 162.648,80
D	Jumlah (A+B+C)					Rp 24.397,32
E	Overhead & Profit (Contoh 15 %)			15% x D (maksimum)		Rp 187.046,12
F	Harga Satuan Pekerjaan (D+E)					

Appendix 4.5 Architectural Work

Pemasangan 1m ² dinding bata ringan tebal 10 cm dengan mortar siap pakai						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,671	Rp 72.600,00	Rp 48.714,60
	Tukang batu	L.02	OH	1	Rp 80.000,00	Rp 104.000,00
	Kepala tukang	L.03	OH	0,13	Rp 89.800,00	Rp 11.674,00
	Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
						JUMLAH TENAGA KERJA
						Rp 164.649,60
B	BAHAN					
	Bata ringan tebal 10cm		3	8,4	Rp 60.000,00	Rp 504.000,00
	Mortar siap pakai		Kg	0,063	Rp 8.000,00	Rp 504,00
						JUMLAH HARGA BAHAN
						Rp 504.504,00
C	PERALATAN					
	Peralatan		%	10		
						JUMLAH HARGA ALAT
						Rp 669.153,60
D	Jumlah (A+B+C)					Rp 100.373,04
E	Overhead & Profit (Contoh 15%)			15% x D (maksimum)		Rp 769.526,64
F	Harga Satuan Pekerjaan (D+E)					
Pemasangan 1 m ² plesteran ISP : 2PP tebal 15 mm						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,3	Rp 72.600,00	Rp 21.780,00
	Tukang batu	L.03	OH	0,15	Rp 80.000,00	Rp 12.000,00
	Kepala tukang	L.03	OH	0,015	Rp 89.800,00	Rp 1.347,00
	Mandor	L.04	OH	0,015	Rp 87.000,00	Rp 1.305,00
						JUMLAH TENAGA KERJA
						Rp 36.432,00
B	BAHAN					
	PC		Kg	10,224	Rp 1.100,00	Rp 11.246,40
	PP		3	0,02	Rp 200.000,00	Rp 4.000,00
						JUMLAH HARGA BAHAN
						Rp 15.246,40
C	PERALATAN					
						JUMLAH HARGA ALAT
						Rp 51.678,40
D	Jumlah (A+B+C)					Rp 7.751,76
E	Overhead & Profit (Contoh 15%)			15% x D (maksimum)		Rp 59.430,16
F	Harga Satuan Pekerjaan (D+E)					

Pemasangan 1 m ² acian						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,2	Rp 72.600,00	Rp 14.520,00
	Tukang batu	L.03	OH	0,1	Rp 80.000,00	Rp 8.000,00
	Kepala tukang	L.03	OH	0,01	Rp 89.800,00	Rp 898,00
	Mandor	L.04	OH	0,01	Rp 87.000,00	Rp 870,00
						JUMLAH TENAGA KERJA Rp 24.288,00
B	BAHAN					
	Semen PC		Kg	3,25	Rp 1.100,00	Rp 3.575,00
						JUMLAH HARGA BAHAN Rp 3.575,00
C	PERALATAN					
						JUMLAH HARGA ALAT
D	Jumlah (A+B+C)					Rp 27.863,00
E	Overhead & Profit (Contoh 15%)			15% x D (maksimum)		Rp 4.179,45
F	Harga Satuan Pekerjaan (D+E)					Rp 32.042,45

Pemasangan 1 m ² plesteran skoring ISP : 3PP lebar 10 cm						
No	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA					
	Pekerja	L.01	OH	0,08	Rp 72.600,00	Rp 5.808,00
	Tukang batu	L.03	OH	0,4	Rp 80.000,00	Rp 32.000,00
	Kepala tukang	L.03	OH	0,04	Rp 89.800,00	Rp 3.592,00
	Mandor	L.04	OH	0,004	Rp 87.000,00	Rp 348,00
						JUMLAH TENAGA KERJA Rp 41.748,00
B	BAHAN					
	Semen PC		Kg	0,5	Rp 1.100,00	Rp 550,00
	Pasir pasang		m ³	0,013	Rp 200.000,00	Rp 2.600,00
						JUMLAH HARGA BAHAN Rp 3.150,00
C	PERALATAN					
						JUMLAH HARGA ALAT
D	Jumlah (A+B+C)					Rp 44.898,00
E	Overhead & Profit (Contoh 15%)			15% x D (maksimum)		Rp 6.734,70
F	Harga Satuan Pekerjaan (D+E)					Rp 51.632,70

Pengecatan 1m ² Tembok Baru Interior (1 Lapis Plamur, 1 Lapis Cat Dasar, 2 Lapis Cat Penutup)						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH	0,02	Rp 72.600,00	Rp 1.452,00
	2 Tukang Cat	L.02	OH	0,063	Rp 80.000,00	Rp 5.040,00
	3 Kepala Tukang	L.03	OH	0,0063	Rp 89.800,00	Rp 565,74
	4 Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
						JUMLAH HARGA TENAGA KERJA Rp 7.318,74
B	BAHAN					
	1 Plamur		buah	0,1	Rp 30.100,00	Rp 3.010,00
	2 Cat Dasar Interior		kg	0,1	Rp 15.000,00	Rp 1.500,00
	3 Cat Penutup Interior		kg	0,26	Rp 40.000,00	Rp 10.400,00
						JUMLAH HARGA BAHAN Rp 14.910,00
C	PERALATAN					
						JUMLAH HARGA ALAT
D	Jumlah (A+B+C)					Rp 22.228,74
E	Overhead + Profit			15% Koefisien		Rp 3.334,31
F	Harga Satuan Pekerjaan (D+E)					Rp 25.563,05

Pengecatan 1m ² Tembok Baru Eksterior (1 Lapis Plamur, 1 Lapis Cat Dasar, 2 Lapis Cat Penutup)						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH	0,02	Rp 72.600,00	Rp 1.452,00
	2 Tukang Cat	L.02	OH	0,063	Rp 80.000,00	Rp 5.040,00
	3 Kepala Tukang	L.03	OH	0,0063	Rp 89.800,00	Rp 565,74
	4 Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
						JUMLAH HARGA TENAGA KERJA Rp 7.318,74
B	BAHAN					
	1 Plamur		buah	0,1	Rp 30.100,00	Rp 3.010,00
	2 Cat Dasar Eksterior		kg	0,1	Rp 15.000,00	Rp 1.500,00
	3 Cat Penutup Eksterior		kg	0,26	Rp 40.000,00	Rp 10.400,00
						JUMLAH HARGA BAHAN Rp 14.910,00
C	PERALATAN					
						JUMLAH HARGA ALAT
D	Jumlah (A+B+C)					Rp 22.228,74
E	Overhead + Profit			15% Koefisien		Rp 3.334,31
F	Harga Satuan Pekerjaan (D+E)					Rp 25.563,05

Pengecatan 1m ² Waterproofing						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH	0,02	Rp 72.600,00	Rp 1.452,00
	2 Tukang Cat	L.02	OH	0,063	Rp 80.000,00	Rp 5.040,00
	3 Kepala Tukang	L.03	OH	0,0063	Rp 89.800,00	Rp 565,74
	4 Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
						JUMLAH HARGA TENAGA KERJA Rp 7.318,74
B	BAHAN					
	1 Plamur		buah	0,1	Rp 30.100,00	Rp 3.010,00
	2 Cat Dasar Waterproof		kg	0,1	Rp 15.000,00	Rp 1.500,00
	3 Cat Penutup Waterproof		kg	0,26	Rp 40.000,00	Rp 10.400,00
						JUMLAH HARGA BAHAN Rp 14.910,00
C	PERALATAN					
						JUMLAH HARGA ALAT
D	Jumlah (A+B+C)					Rp 22.228,74
E	Overhead + Profit			15% Koefisien		Rp 3.334,31
F	Harga Satuan Pekerjaan (D+E)					Rp 25.563,05

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
Pengecatan 1m2 Bidang Kayu Baru (1 lapis Plamur, 1 Lapis Cat Dasar, 2 Lapis Cat Penutup)						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,07	Rp 72.600,00	Rp 5.082,00
2	Tukang Cat	L.02	OH	0,009	Rp 80.000,00	Rp 720,00
3	Kepala Tukang	L.03	OH	0,006	Rp 89.800,00	Rp 538,80
4	Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
JUMLAH HARGA TENAGA KERJA						Rp 6.601,80
B	BAHAN					
1	Memie		kg	0,2	Rp 26.667,00	Rp 5.333,40
2	Plamur		kg	0,25	Rp 30.100,00	Rp 7.525,00
3	Cat Dasar		kg	0,17	Rp 15.000,00	Rp 2.550,00
4	Cat Penutup		kg	0,26	Rp 40.000,00	Rp 10.400,00
5	Kuas		buah	0,01	Rp 13.000,00	Rp 130,00
6	Pengencer		kg	0,03	Rp 10.000,00	Rp 300,00
7	Ampelas		Lembar	0,2	Rp 1.650,00	Rp 330,00
JUMLAH HARGA BAHAN						Rp 26.568,40
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 33.170,20
E	Overhead + Profit		15%	Koefisien		Rp 4.975,53
F	Harga Satuan Pekerjaan (D+E)					Rp 38.145,73

Pekerjaan 1 Unit Pintu Tipe P1						
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga	
A						
Tenaga Kerja						
	Pekerja	OH	0,04	Rp 86,765.00	Rp 3,470.60	
	Tukang alluminium	OH	0,04	Rp 86,765.00	Rp 3,470.60	
	Kepala tukang alluminium	OH	0,002	Rp 86,765.00	Rp 190.88	
	Mandor	OH	0,002	Rp 90,896.00	Rp 199.97	
Jumlah Upah Tenaga Kerja						Rp 7,332.05
B						
Bahan						
	Kusen Aluminium	m'	6,46	Rp 107,000	Rp 691,220.00	
	WPC Door Tipe Router 4mm	m2	3,93	Rp 1,310,000	Rp 5,148,300.00	
	Sekrup	buah	40	Rp 250	Rp 10,000.00	
	Engsel Pintu	buah	6	Rp 65,000	Rp 390,000.00	
	Handle Pintu Stainless Steel	buah	2	Rp 293,000	Rp 586,000.00	
	Lockcase+Double Cilinder	buah	2	Rp 260,000	Rp 520,000.00	
	Door Stopper	buah	2	Rp 41,900	Rp 83,800.00	
	Gerendel Pintu Dexxon 2"	buah	2	Rp 36,000	Rp 72,000.00	
Jumlah Harga Material						Rp 7,501,320.00
C						
Peralatan						
Jumlah Harga Sewa Alat						Rp -
D	Jumlah (A+B+C)				Rp 7,508,652.05	
E	Overhead & Profit (10% x D)				Rp 750,865.21	
F	Harga Satuan Pekerjaan (D+E)				8,259,517.26	

Pekerjaan 1 Unit Pintu Tipe P2						
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga	
A						
Tenaga Kerja						
	Pekerja	OH	0,04	Rp 86,765.00	Rp 3,470.60	
	Tukang kayu	OH	0,04	Rp 100,193.00	Rp 4,007.72	
	Kepala tukang kayu	OH	0,002	Rp 100,193.00	Rp 220.42	
	Mandor	OH	0,002	Rp 90,896.00	Rp 199.97	
Jumlah Upah Tenaga Kerja						Rp 7,898.72
B						
Bahan						
	Kusen Kayu	m'	11,82	Rp 100,000	Rp 1,182,000.00	
	WPC Door Tipe Router 4mm	m2	0,25	Rp 1,310,000	Rp 327,500.00	
	Sekrup	buah	30	Rp 250	Rp 7,500.00	
	Kaca 6mm	m2	3,3	Rp 149,200	Rp 492,360.00	
	Engsel Pintu	buah	3	Rp 34,600	Rp 103,800.00	
	Handle Pintu Stainless Steel	buah	1	Rp 293,000	Rp 293,000.00	
	Lockcase+Double Cilinder	buah	1	Rp 260,000	Rp 260,000.00	
	Door Stopper	buah	1	Rp 41,900	Rp 41,900.00	
	Gerendel Pintu Dexxon 2"	buah	1	Rp 70,700	Rp 70,700.00	
Jumlah Harga Material						Rp 2,778,760.00
C						
Peralatan						
Jumlah Harga Sewa Alat						Rp -
D	Jumlah (A+B+C)				Rp 2,786,658.72	
E	Overhead & Profit (10% x D)				Rp 278,665.87	
F	Harga Satuan Pekerjaan (D+E)				3,065,324.59	

Pekerjaan 1 Unit Pintu Tipe P4 & P3					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A Tenaga Kerja					
	Pekerja	OH	0,04	Rp 86,765.00	Rp 3,470.60
	Tukang alluminium	OH	0,04	Rp 86,765.00	Rp 3,470.60
	Kepala tukang alluminium	OH	0,002	Rp 100,193.00	Rp 220.42
	Mandor	OH	0,002	Rp 90,896.00	Rp 199.97
Jumlah Upah Tenaga Kerja					Rp 7,361.60
B Bahan					
	Kusen Aluminium	m'	6,05	Rp 107,000	Rp 647,350.00
	WPC Door Tipe Router 4mm	m2	2,51	Rp 1,310,000	Rp 3,288,100.00
	Sekrup	buah	30	Rp 250	Rp 7,500.00
	Engsel Pintu	buah	3	Rp 50,000	Rp 150,000.00
	Handle Pintu Stainless Steel	buah	1	Rp 293,000	Rp 293,000.00
	Lockcase+Double Cilinder	buah	1	Rp 260,000	Rp 260,000.00
	Door Stopper	buah	1	Rp 41,900	Rp 41,900.00
Jumlah Harga Material					Rp 4,687,850.00
C Peralatan					
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 4,695,211.60
E	Overhead & Profit (10% x D)				Rp 469,521.16
F	Harga Satuan Pekerjaan (D+E)				5.164.732,76

Pekerjaan 1 Unit Pintu Tipe P5					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A Tenaga Kerja					
	Pekerja	OH	0,04	Rp 80,000.00	Rp 3,200.00
	Tukang alluminium	OH	0,04	Rp 90,000.00	Rp 3,600.00
	Kepala tukang alluminium	OH	0,002	Rp 100,000.00	Rp 220.00
	Mandor	OH	0,002	Rp 110,000.00	Rp 242.00
Jumlah Upah Tenaga Kerja					Rp 7,262.00
B Bahan					
	Kusen Aluminium	m'	6	Rp 55,500	Rp 333,000.00
	WPC Door Tipe Router 4mm	m2	1,58	Rp 1,000,000	Rp 1,580,000.00
	Sekrup	buah	30	Rp 250	Rp 7,500.00
	Kaca 6mm	m2	0,269	Rp 142,000	Rp 38,198.00
	Engsel Pintu	buah	3	Rp 50,000	Rp 150,000.00
	Handle Pintu Stainless Steel	buah	1	Rp 260,000	Rp 260,000.00
	Lockcase+Double Cilinder	buah	1	Rp 230,000	Rp 230,000.00
	Door Stopper	buah	1	Rp 50,000	Rp 50,000.00
Jumlah Harga Material					Rp 2,648,698.00
C Peralatan					
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 2,655,960.00
E	Overhead & Profit (10% x D)				Rp 265,596.00
F	Harga Satuan Pekerjaan (D+E)				2.921.556,00

Pekerjaan 1 Unit Pintu Tipe P6					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A Tenaga Kerja					
	Pekerja	OH	0,04	Rp 80,000.00	Rp 3,200.00
	Tukang alluminium	OH	0,04	Rp 90,000.00	Rp 3,600.00
	Kepala tukang alluminium	OH	0,002	Rp 100,000.00	Rp 220.00
	Mandor	OH	0,002	Rp 110,000.00	Rp 242.00
Jumlah Upah Tenaga Kerja					Rp 7,262.00
B Bahan					
	Overpanel Pivot Patch Fitting Solid PT 30	buah	2	Rp 38,000	Rp 76,000.00
	Top Patch Fitting Solid PT 30	buah	2	Rp 143,500	Rp 287,000.00
	Sekrup	buah	34	Rp 250	Rp 8,500.00
	Kaca 6mm	m2	5	Rp 142,000	Rp 710,000.00
	Handle Pintu Stainless Steel	buah	2	Rp 260,000	Rp 520,000.00
	Bottom Patch Fitting Solid PT 30	buah	4	Rp 238,000	Rp 952,000.00
	Door Stopper	buah	2	Rp 50,000	Rp 100,000.00
	Floor Hinges Solid FH 84	buah	2	Rp 775,000	Rp 1,550,000.00
Jumlah Harga Material					Rp 4,203,500.00
C Peralatan					
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 4,210,762.00
E	Overhead & Profit (10% x D)				Rp 421,076.20
F	Harga Satuan Pekerjaan (D+E)				4.631.838,20

Pekerjaan 1 Unit Pintu Tipe P7						
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga	
A Tenaga Kerja						
	Pekerja	OH	0,04	Rp 86,765.00	Rp	3,470.60
	Tukang alluminium	OH	0,04	Rp 86,765.00	Rp	3,470.60
	Kepala tukang alluminium	OH	0,002	Rp 100,193.00	Rp	220.42
	Mandor	OH	0,002	Rp 90,896.00	Rp	199.97
Jumlah Upah Tenaga Kerja						Rp 7,361.60
B Bahan						
	Kusen Aluminium	m'	23,9	Rp 107,000	Rp	2,557,300.00
	Sekrup	buah	30	Rp 250	Rp	7,500.00
	Kaca 6mm	m2	5,92	Rp 149,200	Rp	883,353.52
	Engsel Pintu	buah	3	Rp 25,000	Rp	75,000.00
	Handle Pintu Stainless Steel	buah	1	Rp 293,000	Rp	293,000.00
	Lockcase+Double Cilinder	buah	1	Rp 260,000	Rp	260,000.00
	Door Stopper	buah	1	Rp 41,900	Rp	41,900.00
Jumlah Harga Material						Rp 4,118,053.52
C Peralatan						
Jumlah Harga Sewa Alat						Rp -
D	Jumlah (A+B+C)					Rp 4,125,415.12
E	Overhead & Profit (10% x D)					Rp 412,541.51
F	Harga Satuan Pekerjaan (D+E)					4.537.956,63

Pekerjaan 1 Unit Pintu Tipe P8						
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga	
A Tenaga Kerja						
	Pekerja	OH	0,04	Rp 86,765.00	Rp	3,470.60
	Tukang alluminium	OH	0,04	Rp 86,765.00	Rp	3,470.60
	Kepala tukang alluminium	OH	0,002	Rp 100,193.00	Rp	220.42
	Mandor	OH	0,002	Rp 90,896.00	Rp	199.97
Jumlah Upah Tenaga Kerja						Rp 7,361.60
B Bahan						
	Overpanel Pivot Patch Fitting Solid PT 30	buah	2	Rp 38,000	Rp	76,000.00
	Top Patch Fitting Solid PT 30	buah	2	Rp 200,000	Rp	400,000.00
	Sekrup	buah	34	Rp 250	Rp	8,500.00
	Kaca 6mm	m2	5	Rp 149,200	Rp	746,000.00
	Handle Pintu Stainless Steel	buah	2	Rp 293,000	Rp	586,000.00
	Bottom Patch Fitting Solid PT 30	buah	4	Rp 41,900	Rp	167,600.00
	Door Stopper	buah	2	Rp 50,000	Rp	100,000.00
	Floor Hinges Solid FH 84	buah	2	Rp 598,000	Rp	1,196,000.00
Jumlah Harga Material						Rp 3,280,100.00
C Peralatan						
Jumlah Harga Sewa Alat						Rp -
D	Jumlah (A+B+C)					Rp 3,287,461.60
E	Overhead & Profit (10% x D)					Rp 328,746.16
F	Harga Satuan Pekerjaan (D+E)					3.616.207,76

Pembuatan dan Pemasangan Jendela PJI						
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga	
A Tenaga Kerja						
	Pekerja	OH	6	Rp 86,765.00	Rp	520,590.00
	Tukang Kayu	OH	18	Rp 100,193.00	Rp	1,803,474.00
	Kepala Tukang Kayu	OH	1,8	Rp 100,193.00	Rp	180,347.40
	Mandor	OH	0,3	Rp 90,896.00	Rp	27,268.80
Jumlah Upah Tenaga Kerja						Rp 2,531,680.20
B Bahan						
	Balok kayu 6 x 12	m3	1,2	Rp 97,900	Rp	117,480.00
	Paku 10 cm	kg	1,25	Rp 20,000	Rp	25,000.00
	Lem Kayu	kg	1	Rp 15,000	Rp	15,000.00
Jumlah Harga Material						Rp 157,480.00
C Peralatan						
Jumlah Harga Sewa Alat						Rp -
D	Jumlah (A+B+C)					Rp 2,689,160.20
E	Overhead & Profit (10% x D)					Rp 268,916.02
F	Harga Satuan Pekerjaan (D+E)					2.958.076,22

Pekerjaan 1 Unit Jendela Tipe J1							
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga		
A Tenaga Kerja							
	Pekerja	OH	0,04	Rp 86,765.00	Rp	3,470.60	
	Tukang aluminium	OH	0,04	Rp 86,765.00	Rp	3,470.60	
	Kepala tukang aluminium	OH	0,002	Rp 86,765.00	Rp	190.88	
	Mandor	OH	0,002	Rp 90,896.00	Rp	199.97	
Jumlah Upah Tenaga Kerja						Rp 7,332.05	
B Bahan							
	Kusen Aluminium	m'	25.8	Rp 107,000	Rp	2,760,600.00	
	Kaca Tempered 6mm	m2	19.6	Rp 640,000	Rp	12,541,824.00	
Jumlah Harga Material						Rp 15,302,424.00	
C Peralatan							
Jumlah Harga Sewa Alat						Rp -	
D	Jumlah (A+B+C)					Rp	15,309,756.05
E	Overhead & Profit (10% x D)					Rp	1,530,975.61
F	Harga Satuan Pekerjaan (D+E)						16.840.731,66

Pekerjaan 1 Jendela Tipe J2							
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga		
A Tenaga Kerja							
	Pekerja	OH	0,04	Rp 86,765.00	Rp	3,470.60	
	Tukang Kayu	OH	0,04	Rp 100,193.00	Rp	4,007.72	
	Kepala Tukang Kayu	OH	0,002	Rp 100,193.00	Rp	220.42	
	Mandor	OH	0,002	Rp 90,896.00	Rp	199.97	
Jumlah Upah Tenaga Kerja						Rp 7,898.72	
B Bahan							
	Kusen Kayu	m'	25.8	Rp 13,000	Rp	335,400.00	
	Paku 10 cm	kg	1,25	Rp 20,000	Rp	25,000.00	
	Cat Kayu	kg	0,42	Rp 56,000	Rp	23,520.00	
	Lem Kayu Fox	kg	1	Rp 15,000	Rp	15,000.00	
	Engsel Pivot	buah	2	Rp 25,000	Rp	50,000.00	
	Kaca 6mm	m2	19,1862	Rp 149,200	Rp	2,862,581.04	
Jumlah Harga Material						Rp 3,311,501.04	
C Peralatan							
Jumlah Harga Sewa Alat						Rp -	
D	Jumlah (A+B+C)					Rp	3,319,399.76
E	Overhead & Profit (10% x D)					Rp	331,939.98
F	Harga Satuan Pekerjaan (D+E)						3.651.339,73

Pekerjaan 1 Unit Jendela Tipe BV							
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga		
A Tenaga Kerja							
	Pekerja	OH	0,04	Rp 86,765.00	Rp	3,470.60	
	Tukang Kayu	OH	0,04	Rp 100,193.00	Rp	4,007.72	
	Kepala Tukang Kayu	OH	0,002	Rp 100,193.00	Rp	220.42	
	Mandor	OH	0,002	Rp 90,896.00	Rp	199.97	
Jumlah Upah Tenaga Kerja						Rp 7,898.72	
B Bahan							
	Kusen Kayu	m'	1.96	Rp 100,000	Rp	196,000.00	
	Paku 10 cm	kg	0.1	Rp 23,000	Rp	2,300.00	
	Cat Kayu	kg	0.03	Rp 56,000	Rp	1,680.00	
	Engsel Casement Jendela	buah	2	Rp 28,000	Rp	56,000.00	
	Window Casement	m'	0.44	Rp 25,000	Rp	11,000.00	
	Lem Kayu Fox	kg	0.1	Rp 15,000	Rp	1,500.00	
	Kaca 6mm	m2	0.1	Rp 149,200	Rp	14,920.00	
Jumlah Harga Material						Rp 283,400.00	
C Peralatan							
Jumlah Harga Sewa Alat						Rp -	
D	Jumlah (A+B+C)					Rp	291,298.72
E	Overhead & Profit (10% x D)					Rp	29,129.87
F	Harga Satuan Pekerjaan (D+E)					Rp 320,428.59	

RALLING INSTALLATION							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A TENAGA KERJA							
1	Pekerja	L.01	OH		1,67 Rp 85,000.00	Rp 141,950.00	
2	Tukang Besi	L.02	OH		1,67 Rp 105,500.00	Rp 176,185.00	
3	Kepala Tukang	L.03	OH		0,17 Rp 133,200.00	Rp 22,644.00	
4	Mandor	L.04	OH		0,08 Rp 198,000.00	Rp 15,840.00	
JUMLAH HARGA TENAGA KERJA						Rp 6,601,80	
B BAHAN							
1	Menie		kg		0,8 Rp 131,000.00	Rp 104,800.00	
2	Ptamar		kg		1,12 Rp 2,000.00	Rp 2,240.00	
JUMLAH HARGA BAHAN						Rp 107,040.00	
C PERALATAN							
JUMLAH HARGA ALAT						Rp -	
D	Jumlah (A+B+C)					Rp	463,659.00
E	Overhead + Profit					Rp	69,548.85
F	Harga Satuan Pekerjaan (D+E)					Rp 533,207,85	

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
TENAGA KERJA						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,1	Rp 72.600,00	Rp 7.260,00
2	Tukang kayu	L.02	OH	0,05	Rp 87.000,00	Rp 4.350,00
3	Kepala Tukang	L.03	OH	0,005	Rp 89.800,00	Rp 449,00
4	Mandor	L.04	OH	0,005	Rp 87.000,00	Rp 435,00
JUMLAH HARGA TENAGA KERJA						Rp 12.494,00
BAHAN						
B	BAHAN					
1	Papan Gypsum		Lembar	0,364	Rp 48.500,00	Rp 17.654,00
2	Paku Sekrup		kg	0,11	Rp 1.600,00	Rp 176,00
JUMLAH HARGA BAHAN						Rp 17.830,00
PERALATAN						
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 30.324,00
E	Overhead + Profit			15%		Rp 4.548,60
F	Harga Satuan Pekerjaan (D+E)					Rp 34.872,60

3. Pemasangan 1 m2 langit-langit akustik ukuran 60 x 120

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
TENAGA KERJA						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,1	Rp 72.600,00	Rp 7.260,00
2	Tukang Kayu	L.02	OH	0,1	Rp 87.000,00	Rp 8.700,00
3	Kepala Tukang	L.03	OH	0,01	Rp 89.000,00	Rp 898,00
4	Mandor	L.04	OH	0,005	Rp 87.000,00	Rp 435,00
JUMLAH HARGA TENAGA KERJA						Rp 17.293,00
BAHAN						
B	BAHAN					
1	Akustik ukuran 60 x 120		lembar	1,500	Rp 30.000,00	Rp 63.000,00
2	Paku		kg	0,01	Rp 42.000,00	Rp 150,00
JUMLAH HARGA BAHAN						Rp 64.500,00
PERALATAN						
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 81.793,00
E	Overhead + Profit			10% x D		Rp 8.179,00
F	Harga Satuan Pekerjaan (D+E)					Rp 89.972,00

Pemasangan 1 m2 Rangka Besi Hollow Galvani s.d. 40-40 mm, Model 60 x 60 cm, untuk Plafon

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
TENAGA KERJA						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,35	Rp 72.600,00	Rp 25.410,00
2	Tukang besi	L.02	OH	0,35	Rp 80.000,00	Rp 28.000,00
3	Kepala Tukang	L.03	OH	0,035	Rp 89.800,00	Rp 3.143,00
4	Mandor	L.04	OH	0,018	Rp 87.000,00	Rp 1.566,00
JUMLAH HARGA TENAGA KERJA						Rp 58.119,00
BAHAN						
B	BAHAN					
1	Rangka metal hollow		m ²	4	Rp 16.200,00	Rp 64.800,00
2	Assesoris		Ls	4	Rp 1,00	Rp 4,00
JUMLAH HARGA BAHAN						
PERALATAN						
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 58.119,00
E	Overhead + Profit			15%		Rp 8.717,85
F	Harga Satuan Pekerjaan (D+E)					Rp 66.836,85

Pemasangan 1 m2 Acian Skim Coat

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
TENAGA KERJA						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,2	Rp 72.600,00	Rp 14.520,00
2	Tukang batu	L.02	OH	0,1	Rp 80.000,00	Rp 8.000,00
3	Kepala Tukang	L.03	OH	0,01	Rp 89.800,00	Rp 898,00
4	Mandor	L.04	OH	0,01	Rp 87.000,00	Rp 870,00
JUMLAH HARGA TENAGA KERJA						Rp 24.288,00
BAHAN						
B	BAHAN					
1	Semen skim Coat		kg	3,25	Rp 17.000,00	Rp 55.250,00
JUMLAH HARGA BAHAN						
PERALATAN						
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 24.288,00
E	Overhead + Profit			15%		Rp 3.643,20
F	Harga Satuan Pekerjaan (D+E)					Rp 27.931,20

Pemasangan 1 m² List Langit-Langit Kayu profil

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
TENAGA KERJA						
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,05	Rp 72.600,00	Rp 3.630,00
2	Tukang batu	L.02	OH	0,05	Rp 80.000,00	Rp 4.000,00
3	Kepala Tukang	L.03	OH	0,005	Rp 89.800,00	Rp 449,00
4	Mandor	L.04	OH	0,003	Rp 87.000,00	Rp 261,00
JUMLAH HARGA TENAGA KERJA						Rp 8.340,00
BAHAN						
B	BAHAN					
1	List Kayu profil		m ²	1,05	Rp 10.300,00	Rp 10.815,00
2	Paku		kg	0,01	Rp 25.000,00	Rp 250,00
JUMLAH HARGA BAHAN						
PERALATAN						
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp 8.340,00
E	Overhead + Profit			15%		Rp 1.251,00
F	Harga Satuan Pekerjaan (D+E)					Rp 9.591,00

Permasalahan 1 m ² List Langit-Langit Gypsum						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,05	Rp	-
2	Tukang Kayu	L.02	OH	0,05	Rp	-
3	Kepala Tukang	L.03	OH	0,005	Rp	-
4	Mandor	L.04	OH	0,003	Rp	-
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
1	List Gypsum		m ²	1,05	Rp	-
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			10%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Permasalahan 1m ² Floor Hardener						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,12	Rp	72.600,00
2	Tukang Batu	L.02	OH	0,12	Rp	80.000,00
3	Kepala Tukang	L.03	OH	0,012	Rp	89.800,00
4	Mandor	L.04	OH	0,006	Rp	87.000,00
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
1	Floor Hardener		kg	5	Rp	3.846,00
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			15%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Permasalahan 1m ² Lantai Keramik 60cm x 60cm						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,24	Rp	72.600,00
2	Tukang Batu	L.02	OH	0,12	Rp	80.000,00
3	Kepala Tukang	L.03	OH	0,012	Rp	89.800,00
4	Mandor	L.04	OH	0,012	Rp	87.000,00
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
1	Keramik ukuran 60cm x 60cm		buah	3,1	Rp	5.400,00
2	Semen Portlan		kg	9,6	Rp	1.100,00
3	Semen Warna		kg	1,5	Rp	17.000,00
3	Pasir Pasang		m ³	0,045	Rp	200.000,00
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			15%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Permasalahan 1m ² Lantai Keramik Ukuran 20cm x 20cm						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,27	Rp	72.600,00
2	Tukang Batu	L.02	OH	0,135	Rp	80.000,00
3	Kepala Tukang	L.03	OH	0,014	Rp	89.800,00
4	Mandor	L.04	OH	0,014	Rp	87.000,00
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
1	Ubin Abs-abu		buah	26,5	Rp	1.900,00
2	Semen Portlan		kg	10,4	Rp	1.100,00
3	Pasir Pasang		m ³	0,045	Rp	200.000,00
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			15%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Permasalahan 1m ² Dinding Keramik 10cm x 20cm						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
1	Pekerja	L.01	OH	0,9	Rp	-
2	Tukang Batu	L.02	OH	0,45	Rp	-
3	Kepala Tukang	L.03	OH	0,045	Rp	-
4	Mandor	L.04	OH	0,045	Rp	-
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
1	Keramik		buah	52		Rp
2	Semen Portlan		kg	9,3	Rp	1.100,00
3	Semen Warna		kg	2,75		Rp
3	Pasir Pasang		m ³	0,018	Rp	200.000,00
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			10%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Pemasangan 1m ² Plesteran ISP - 1PP tebal 15 mm						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH		0,3 Rp	- Rp
	2 Tukang Batu	L.02	OH		0,15 Rp	- Rp
	3 Kepala Tukang	L.03	OH		0,015 Rp	- Rp
	4 Mandor	L.04	OH		0,015 Rp	- Rp
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
	1 Semen Portland		Kg		15.504 Rp	1.100,00 Rp
	2 Pasir Pasang		m ³		0,016 Rp	200.000,00 Rp
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit			10%		Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Appendix 4.6 MEP Activity

Pemasangan 1 Buah Closet Duduk / Monoblock						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH		0,05 Rp	72.600,00 Rp
	2 Tukang Batu	L.02	OH		1,1 Rp	80.000,00 Rp
	3 Kepala Tukang	L.03	OH		0,01 Rp	89.800,00 Rp
	4 Mandor	L.04	OH		0,16 Rp	87.000,00 Rp
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
	1 Closet Duduk		Unit		1 Rp	750.000,00 Rp
	2 Perlengkapan		Is		0,06 Rp	1,00 Rp
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit		15% Koefisien			Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Pemasangan 1 Buah Floor Drain						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH		0,01 Rp	72.600,00 Rp
	2 Tukang Batu	L.02	OH		0,1 Rp	80.000,00 Rp
	3 Kepala Tukang	L.03	OH		0,01 Rp	89.800,00 Rp
	4 Mandor	L.04	OH		0,005 Rp	87.000,00 Rp
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
	1 Floor Drain		Unit		1 Rp	20.500,00 Rp
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit		15% Koefisien			Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Pemasangan 1 buah Kran Diameter 3/4"						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH		0,01 Rp	72.600,00 Rp
	2 Tukang Batu	L.02	OH		0,4 Rp	80.000,00 Rp
	3 Kepala Tukang	L.03	OH		0,04 Rp	89.800,00 Rp
	4 Mandor	L.04	OH		0,005 Rp	87.000,00 Rp
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
	1 Krain air		Buah		1 Rp	5.000,00 Rp
	2 Sealtape		Buah		0,025 Rp	3.000,00 Rp
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit		15% Koefisien			Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Pemasangan 1m' pipa PVC tipe AW Diameter 3/4"						
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A	TENAGA KERJA					
	1 Pekerja	L.01	OH		0,036 Rp	72.600,00 Rp
	2 Tukang Batu	L.02	OH		0,06 Rp	80.000,00 Rp
	3 Kepala Tukang	L.03	OH		0,006 Rp	89.800,00 Rp
	4 Mandor	L.04	OH		0,002 Rp	87.000,00 Rp
JUMLAH HARGA TENAGA KERJA						Rp
B	BAHAN					
	1 Pipa PVC 3/4"		Buah		1,2 Rp	9.500,00 Rp
	2 Perlengkapan		Buah		0,42 Rp	1,00 Rp
JUMLAH HARGA BAHAN						Rp
C	PERALATAN					
JUMLAH HARGA ALAT						
D	Jumlah (A+B+C)					Rp
E	Overhead + Profit		15% Koefisien			Rp
F	Harga Satuan Pekerjaan (D+E)					Rp

Pemasangan 1m ² pipa PVC tipe AW Diameter 1"							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		0,036 Rp	72.600,00	
2	Tukang Batu	L.02	OH		0,06 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,006 Rp	89.800,00	
4	Mandor	L.04	OH		0,002 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	8.126,40
B	BAHAN						
1	Pipa PVC 1"		Buah		1,2 Rp	11.500,00	
2	Perlengkapan		Buah		0,42 Rp	1,00	
JUMLAH HARGA BAHAN						Rp	13.800,42
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	21.926,82
E	Overhead + Profit		15%	Koefisien		Rp	3.289,02
F	Harga Satuan Pekerjaan (D+E)					Rp	25.215,84

Pemasangan 1m ² pipa PVC tipe AW Diameter 3"							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		0,081 Rp	72.600,00	
2	Tukang Batu	L.02	OH		0,135 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,0135 Rp	89.800,00	
4	Mandor	L.04	OH		0,004 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	18.240,90
B	BAHAN						
1	Pipa PVC 3"		Buah		1,2 Rp	26.600,00	
2	Perlengkapan		Buah		0,42 Rp	1,00	
JUMLAH HARGA BAHAN						Rp	31.920,42
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	50.161,32
E	Overhead + Profit		15%	Koefisien		Rp	7.524,20
F	Harga Satuan Pekerjaan (D+E)					Rp	57.685,52

Pemasangan 1m ² pipa PVC tipe AW Diameter 4"							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		0,081 Rp	72.600,00	
2	Tukang Batu	L.02	OH		0,135 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,0135 Rp	89.800,00	
4	Mandor	L.04	OH		0,004 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	18.240,90
B	BAHAN						
1	Pipa PVC 4"		Buah		1,2 Rp	50.000,00	
2	Perlengkapan		Buah		0,42 Rp	1,00	
JUMLAH HARGA BAHAN						Rp	60.000,42
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	78.241,32
E	Overhead + Profit		15%	Koefisien		Rp	11.736,20
F	Harga Satuan Pekerjaan (D+E)					Rp	89.977,52

Pemasangan 1 buah Wastafel							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		1,2 Rp	72.600,00	
2	Tukang Batu	L.02	OH		1,45 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,15 Rp	89.800,00	
4	Mandor	L.04	OH		0,06 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	221.810,00
B	BAHAN						
1	Wastafel Lengkap		Unit		1,2 Rp	350.000,00	
2	Semen Portland		kg		6 Rp	1.100,00	
3	Pasir Pasang		m ³		0,01 Rp	200.000,00	
JUMLAH HARGA BAHAN						Rp	428.600,00
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	650.410,00
E	Overhead + Profit		15%	Koefisien		Rp	97.561,50
F	Harga Satuan Pekerjaan (D+E)					Rp	747.971,50

Pemasangan 1m ² Kaca Cermin Tebal 5 mm							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		0,015 Rp	72.600,00	
2	Tukang Batu	L.02	OH		0,15 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,015 Rp	89.800,00	
4	Mandor	L.04	OH		0,008 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	15.132,00
B	BAHAN						
1	Kaca Cermin 5 mm		Unit		1,1 Rp	122.500,00	
JUMLAH HARGA BAHAN						Rp	134.750,00
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	149.882,00
E	Overhead + Profit		15%	Koefisien		Rp	22.482,30
F	Harga Satuan Pekerjaan (D+E)					Rp	172.364,30

Pemasangan 1m ² Pipa Galvanis Diameter 3/4"							
No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)	
A	TENAGA KERJA						
1	Pekerja	L.01	OH		0,054 Rp	72.600,00	
2	Tukang Batu	L.02	OH		0,09 Rp	80.000,00	
3	Kepala Tukang	L.03	OH		0,009 Rp	89.800,00	
4	Mandor	L.04	OH		0,027 Rp	87.000,00	
JUMLAH HARGA TENAGA KERJA						Rp	14.277,60
B	BAHAN						
1	Pipa galvanis 3/4"		m ³		1,2 Rp	35.000,00	
2	Perlengkapan		Ls		0,42 Rp	1,00	
JUMLAH HARGA BAHAN						Rp	42.000,42
C	PERALATAN						
JUMLAH HARGA ALAT							
D	Jumlah (A+B+C)					Rp	56.278,02
E	Overhead + Profit		15%	Koefisien		Rp	8.441,70
F	Harga Satuan Pekerjaan (D+E)					Rp	64.719,72

A.	TENAGA							
1	Pekerja	L.01	OH		0,3	Rp	72.600,00	
2	Tukang listrik	L.15	OH		0,45	Rp	80.000,00	
3	Kepala Tukang	L.16	OH		0,045	Rp	89.800,00	
JUMLAH TENAGA KERJA							Rp	61.821,00
B.	BAHAN							
1	Lampu LED T5	M.662	buah		1	Rp	52.900,00	
JUMLAH HARGA BAHAN							Rp	52.900,00
C.	PERALATAN							
JUMLAH HARGA ALAT								
D.	Jumlah (A+B+C)						Rp	114.721,00
E.	Profit				15% x D		Rp	17.208,15
F.	Harga Satuan Pekerjaan (D+E)						Rp	131.929,15

A.	TENAGA							
1	Pekerja	L.01	OH		0,3	Rp	72.600,00	
2	Tukang listrik	L.15	OH		0,45	Rp	80.000,00	
3	Kepala Tukang	L.16	OH		0,045	Rp	89.800,00	
JUMLAH TENAGA KERJA							Rp	61.821,00
B.	BAHAN							
1	Kabel NYA 1 x 2,5 mm		m'		12	Rp	3.600,00	
2	Pipa Fleksibel		batang		2	Rp	18.500,00	
3	Saklar Tunggal + in doos		buah		1	Rp	10.000,00	
JUMLAH HARGA BAHAN							Rp	32.100,00
C.	PERALATAN							
JUMLAH HARGA ALAT								
D.	Jumlah (A+B+C)						Rp	93.921,00
E.	Profit				15% x D		Rp	14.088,15
F.	Harga Satuan Pekerjaan (D+E)						Rp	108.009,15

No.	Uraian	Kode	Satuan	Koefisien	Harga Satuan (Rp)	Jumlah Harga (Rp)
A.	TENAGA					
1	Pekerja	L.01	OH		0,3	Rp 72.600,00
2	Tukang listrik	L.15	OH		0,45	Rp 80.000,00
3	Kepala Tukang	L.16	OH		0,045	Rp 89.800,00
JUMLAH TENAGA KERJA						Rp 61.821,00
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'		12	Rp 3.600,00
2	Pipa Fleksibel		batang		2	Rp 18.500,00
3	Saklar Ganda + in doos		buah		1	Rp 13.550,00
JUMLAH HARGA BAHAN						Rp 35.650,00
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					Rp 97.471,00
E.	Profit				15% x D	Rp 14.620,65
F.	Harga Satuan Pekerjaan (D+E)					Rp 112.091,65

2, Pemasangan 1 buah urinoir						Jumlah Harga
No	Uraian	Kode	Satuan	Koefisien	Harga Sat	(Rp)
A TENAGA						
1	Pekerja	L,01	OH	1	96000	96000
2	Tukang B	L,02	OH	1	110000	110000
3	Kepala Tu	L,16	OH	0,1	110000	11000
4	Mandor	L,17	OH	0,05	115000	5750
JUMLAH HARGA TENAGA KERJA						222750
B BAHAN						
1	Urinoir	M,595	buah	1	557000	557000
2	Portland c	M,481	kg	6	1300	7800
3	Pasir mun	M,24	m ³	0,01	385900	3859
4	Perlengka				30% x urinoir	167100
JUMLAH HARGA BAHAN						735759
C PERALAT						
JUMLAH HARGA ALAT						-
D E	Jumlah (A+B+C)					958509
F						
	Overhead & Profit			10% x D		95850,9
	Harga Satuan Pekerjaan (D+E)					1054359

3, Pemasangan 1 buah wastafel						Jumlah Harga
No	Uraian	Kode	Satuan	Koefisien	Harga Sat	(Rp)
A TENAGA						
1	Pekerja	L,01	OH	1	96000	115200
2	Tukang B	L,02	OH	1	110000	159500
3	Kepala Tu	L,16	OH	0,15	110000	16500
4	Mandor	L,17	OH	0,06	115000	6900
JUMLAH HARGA TENAGA KERJA						298100
B BAHAN						
1	Wastafel	M,596	buah	1,2	672186	672186
2	Portland c	M,481	kg	6	1300	7800
3	Pasir mun	M,24	m ³	0,01	385900	3859
4	Perlengka			12% x wastavel		55094,4
JUMLAH HARGA BAHAN						738939,4
C PERALAT						
JUMLAH HARGA ALAT						
Jumlah (A+B+C)						
D						1037039,4
E	Overhead & Profit				10% x D	103703,94
F	Harga Satuan Pekerjaan (D+E)					1140743,34

Pemasangan 1 buah shower						Jumlah Harga
No	Uraian	Kode	Satuan	Koefisien	Harga Sat	(Rp)
A						
TENAGA						
	1 Pekerja	L,01	OH	1	96000	96000
	2 Tukang B	L,02	OH	2	110000	165000
	3 Kepala Tu	L,16	OH	0,15	110000	16500
	4 Mandor	L,17	OH	0,16	115000	18400
JUMLAH HARGA TENAGA KERJA						295900
B						
BAHAN						
	1 Shower		unit	1	307800	307800
	2 Sealtape		buah	0,025	1300	7800
						3859
JUMLAH HARGA BAHAN						319459
C						
PERALAT						
JUMLAH HARGA ALAT						-
D E	Jumlah (A+B+C)					615359
F	Overhead & Profit		10% x D			61535,9
Harga Satuan Pekerjaan (D+E)						218625

5. Pemasangan 1 buah bak kontrol pasangan bata 40cm x40cm tinggi 50 cm						
No	Uraian	Kode	Satuan	Koefisien	Harga Sat (Rp)	Jumlah Harga
A TENAGA						
1	Pekerja	L,01	OH	3200	96000	307200
2	Tukang B	L,02	OH	1150	110000	126500
3	Kepala Tu	L,16	OH	0,011	110000	1210
4	Mandor	L,17	OH	0,016	115000	1840
JUMLAH HARGA TENAGA KERJA						436750
B BAHAN						
1	Bata mera	M,27	buah	70	620	43400
2	Portland c	M,481	kg	77	1300	100100
3	Pasir mun	M,24	m ³	0,13	385900	50167
4	Batu peca	M,31	m ³	0,02	351600	7032
5	Baja tulan	M,137	kg	2,6	13050	33930
JUMLAH HARGA BAHAN						234629
C PERALAT						
JUMLAH HARGA ALAT						
D E Jumlah (A+B+C)						671379
F						
Overhead & Profit				10% x D		67137,9
Harga Satuan Pekerjaan (D+E)						738516

6. Pemasangan 1 titik Saklar Tunggal						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah F
A. TENAGA						
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B. BAHAN						
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Saklar Tunggal + in doos		buah	1	29000	29000
JUMLAH HARGA BAHAN						51100
C. PERALATAN						
JUMLAH HARGA ALAT						
D. Jumlah (A+B+C)						134350
E. Profit				10% x D		13435
F. Harga Satuan Pekerjaan (D+E)						147785

7. Pemasangan 1 titik Saklar Ganda						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Saklar Ganda + in doos		buah	1	16900	16900
JUMLAH HARGA BAHAN						39000
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					122250
E.	Profit			10% x D		12225
F.	Harga Satuan Pekerjaan (D+E)					134475

8. Pemasangan 1 titik Saklar Tukar						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Saklar Tukar + in doos		buah	1	21500	21500
JUMLAH HARGA BAHAN						43600
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					126850
E.	Profit			10% x D		12685
F.	Harga Satuan Pekerjaan (D+E)					139535

9. Pemasangan 1 titik Stop Kontak 3phase 1500 V						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah t
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Stop Kontak 3 phase + in doos		buah	1	27800	27800
JUMLAH HARGA BAHAN						49900
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					133150
E.	Profit				10% x D	13315
F.	Harga Satuan Pekerjaan (D+E)					146465

10. Pemasangan 1 titik Stop Kontak 200 VA						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah t
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Stop Kontak 200 VA + in doos		buah	1	38800	38800
JUMLAH HARGA BAHAN						60900
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					144150
E.	Profit				10% x D	14415
F.	Harga Satuan Pekerjaan (D+E)					158565

11. Pemasangan 1 titik Grid Switch						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah t
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Kabel NYA 1 x 2,5 mm		m'	12	3600	3600
2	Pipa Fleksibel		batang	2	18500	18500
3	Grid Switch		buah	1	98500	98500
JUMLAH HARGA BAHAN						120600
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					203850
E.	Profit			10% x D		20385
F.	Harga Satuan Pekerjaan (D+E)					224235

12. Pemasangan 1 buah Rak Kabel						
No.	Uraian	Kode	Satuan	Koefisien	Harga S	Jumlah t
A.	TENAGA					
1	Pekerja	L.01	OH	0,3	96000	28800
2	Tukang listrik	L.15	OH	0,45	110000	49500
3	Kepala Tukang	L.16	OH	0,045	110000	4950
JUMLAH TENAGA KERJA						83250
B.	BAHAN					
1	Rak Kabel U 30cm'		buah	1	403888	403888
JUMLAH HARGA BAHAN						403888
C.	PERALATAN					
JUMLAH HARGA ALAT						
D.	Jumlah (A+B+C)					487138
E.	Profit			10% x D		48713,8
F.	Harga Satuan Pekerjaan (D+E)					535852

Appendix 4.7 Roof Activity

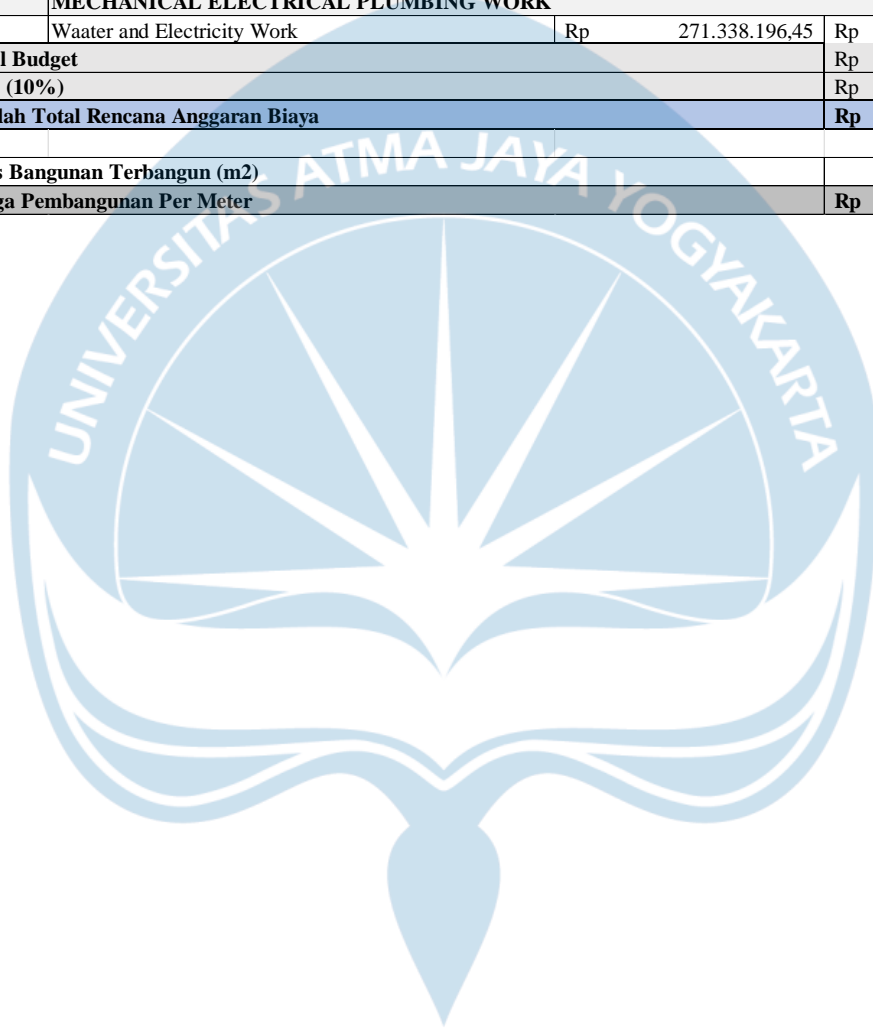
Pekerjaan Besi Profil					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A	Tenaga Kerja				
	Pekerja	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Tukang Besi	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Kepala Tukang Besi	OH	0,01	Rp 100.193,00	Rp 1.001,93
	Tukang Las	OH	0,06	Rp 86.765,00	Rp 5.205,90
	Kepala Tukang Las	OH	0,006	Rp 100.193,00	Rp 601,16
	Mandor	OH	0,003	Rp 90.896,00	Rp 272,69
Jumlah Upah Tenaga Kerja					Rp 24.434,68
B	Bahan				
	Besi Profil IWF	m'	1,00	Rp 314.700	Rp 314.700,00
	Kawat Las	kg	5,00	Rp 330.000	Rp 1.650.000,00
	Solar Non Subsidi	ltr	0,10	Rp 8.800	Rp 880,00
	Baut	buah	15,00	Rp 535	Rp 8.025,00
	Pelat Besi	kg	15,00	Rp 16.500	Rp 247.500,00
	Meni Zincromate	kg	5,50	Rp 26.667	Rp 146.668,50
Jumlah Harga Material					Rp 2.367.773,50
C	Peralatan				
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 2.392.208,18
E	Overhead & Profit (10% x D)				Rp 239.220,82
F	Harga Satuan Pekerjaan (D+E)				Rp 2.631.428,99

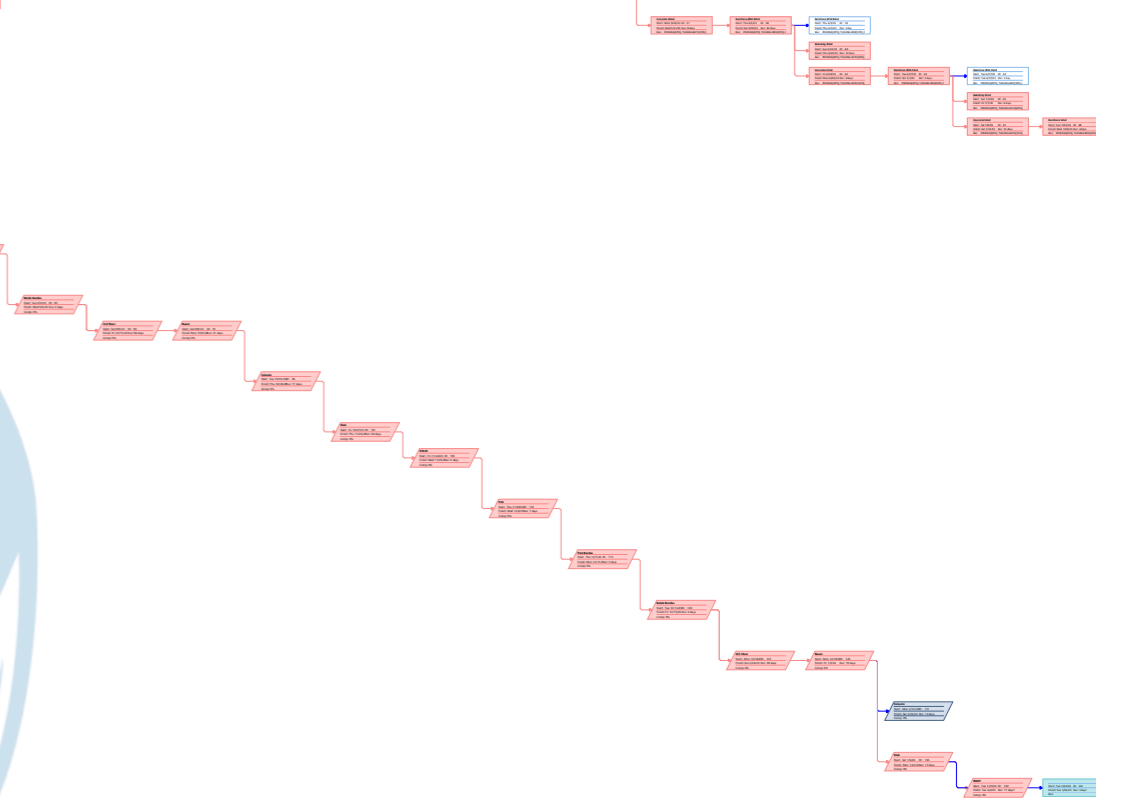
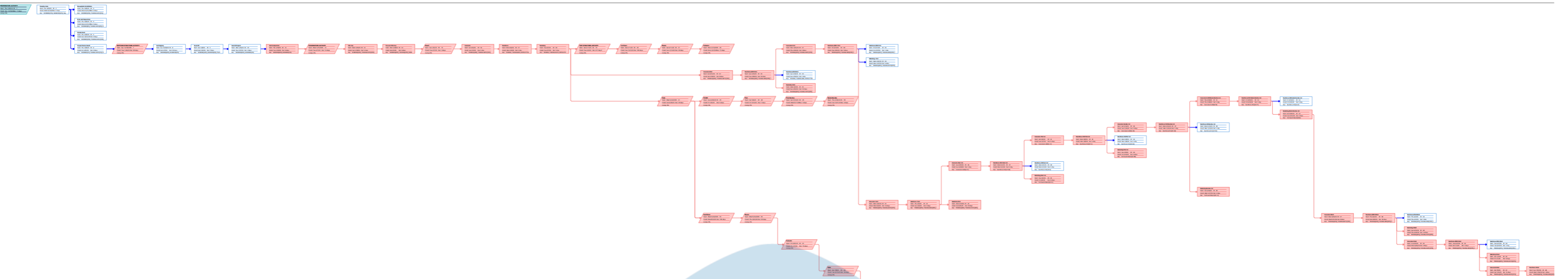
Pekerjaan Kuda-Kuda WF					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A	Tenaga Kerja				
	Pekerja	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Tukang Besi	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Kepala Tukang Besi	OH	0,01	Rp 100.193,00	Rp 1.001,93
	Tukang Las	OH	0,06	Rp 86.765,00	Rp 5.205,90
	Kepala Tukang Las	OH	0,006	Rp 100.193,00	Rp 601,16
	Mandor	OH	0,003	Rp 90.896,00	Rp 272,69
Jumlah Upah Tenaga Kerja					Rp 24.434,68
B	Bahan				
	Besi Profil IWF	m'	1,00	Rp 314.700	Rp 314.700,00
	Kawat Las	kg	5,00	Rp 330.000	Rp 1.650.000,00
	Solar Non Subsidi	ltr	0,10	Rp 8.800	Rp 880,00
	Baut	buah	15,00	Rp 535	Rp 8.025,00
	Pelat Besi	kg	15,00	Rp 16.500	Rp 247.500,00
	Meni Zincromate	kg	5,50	Rp 26.667	Rp 146.668,50
Jumlah Harga Material					Rp 2.367.773,50
C	Peralatan				
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 2.392.208,18
E	Overhead & Profit (10% x D)				Rp 239.220,82
F	Harga Satuan Pekerjaan (D+E)				Rp 2.631.428,99

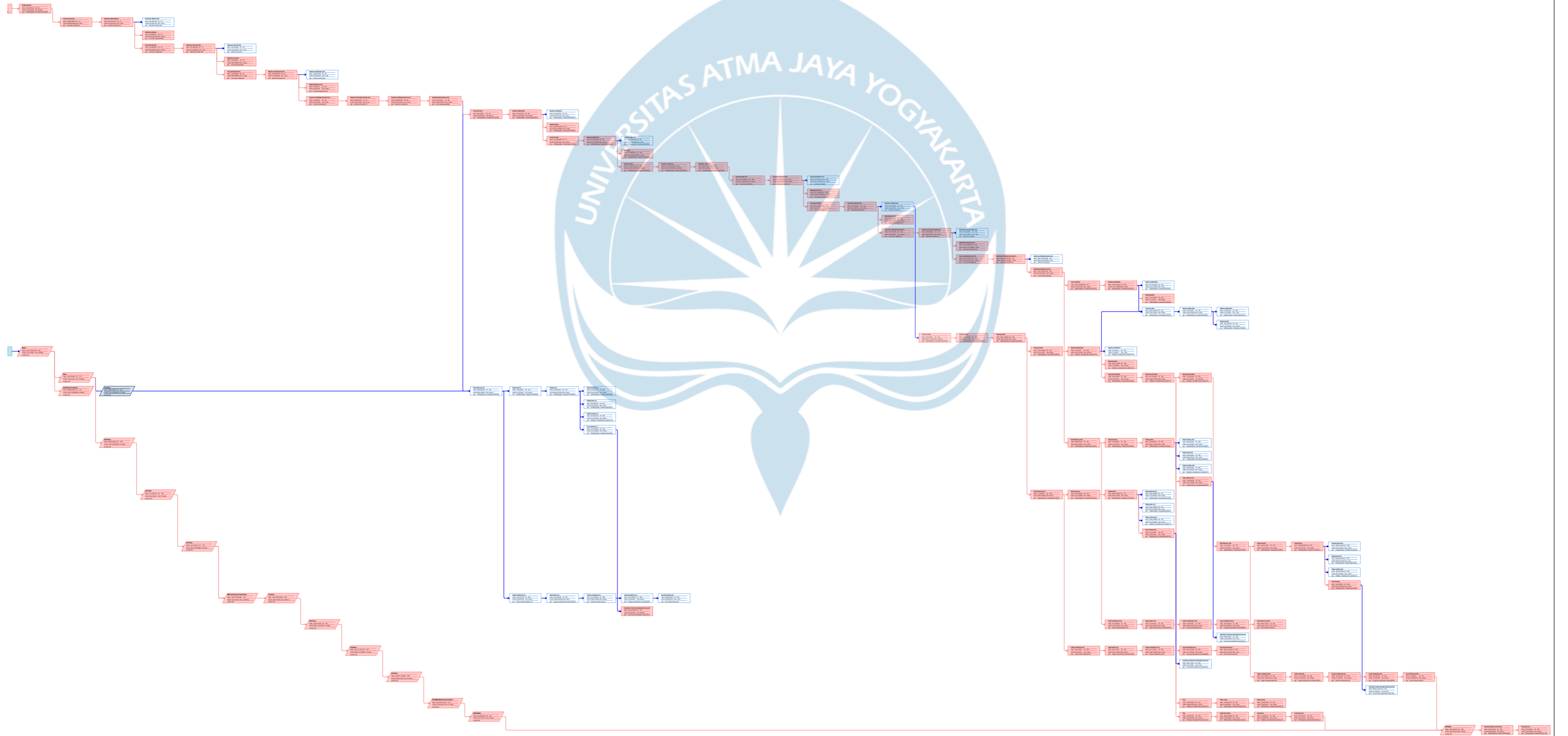
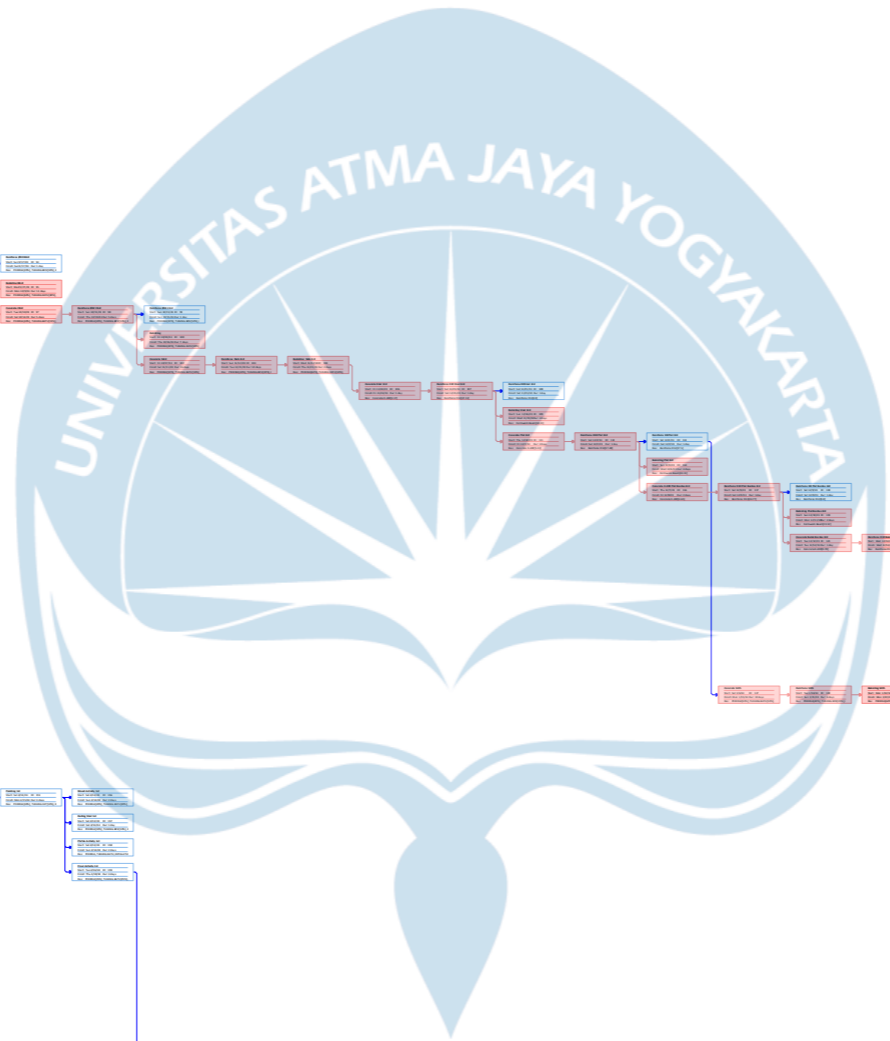
Pekerjaan Sagrod					
NO	Uraian	Sat	Koef	Harga Satuan	Jumlah Harga
A	Tenaga Kerja				
	Pekerja	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Tukang Besi	OH	0,1	Rp 86.765,00	Rp 8.676,50
	Kepala Tukang Besi	OH	0,01	Rp 100.193,00	Rp 1.001,93
	Tukang Las	OH	0,06	Rp 86.765,00	Rp 5.205,90
	Kepala Tukang Las	OH	0,006	Rp 100.193,00	Rp 601,16
	Mandor	OH	0,003	Rp 90.896,00	Rp 272,69
Jumlah Upah Tenaga Kerja					Rp 24.434,68
B	Bahan				
	Besi Profil IWF	m'	1,00	Rp 314.700	Rp 314.700,00
	Kawat Las	kg	5,00	Rp 314.700	Rp 1.573.500,00
	Solar Non Subsidi	ltr	0,10	Rp 330.000	Rp 33.000,00
	Baut	buah	15,00	Rp 8.800	Rp 132.000,00
	Pelat Besi	kg	15,00	Rp 535	Rp 8.025,00
	Meni Zincromate	kg	5,50	Rp 16.500	Rp 90.750,00
Jumlah Harga Material					Rp 2.151.975,00
C	Peralatan				
Jumlah Harga Sewa Alat					Rp -
D	Jumlah (A+B+C)				Rp 2.176.409,68
E	Overhead & Profit (10% x D)				Rp 217.640,97
F	Harga Satuan Pekerjaan (D+E)				Rp 2.394.050,64

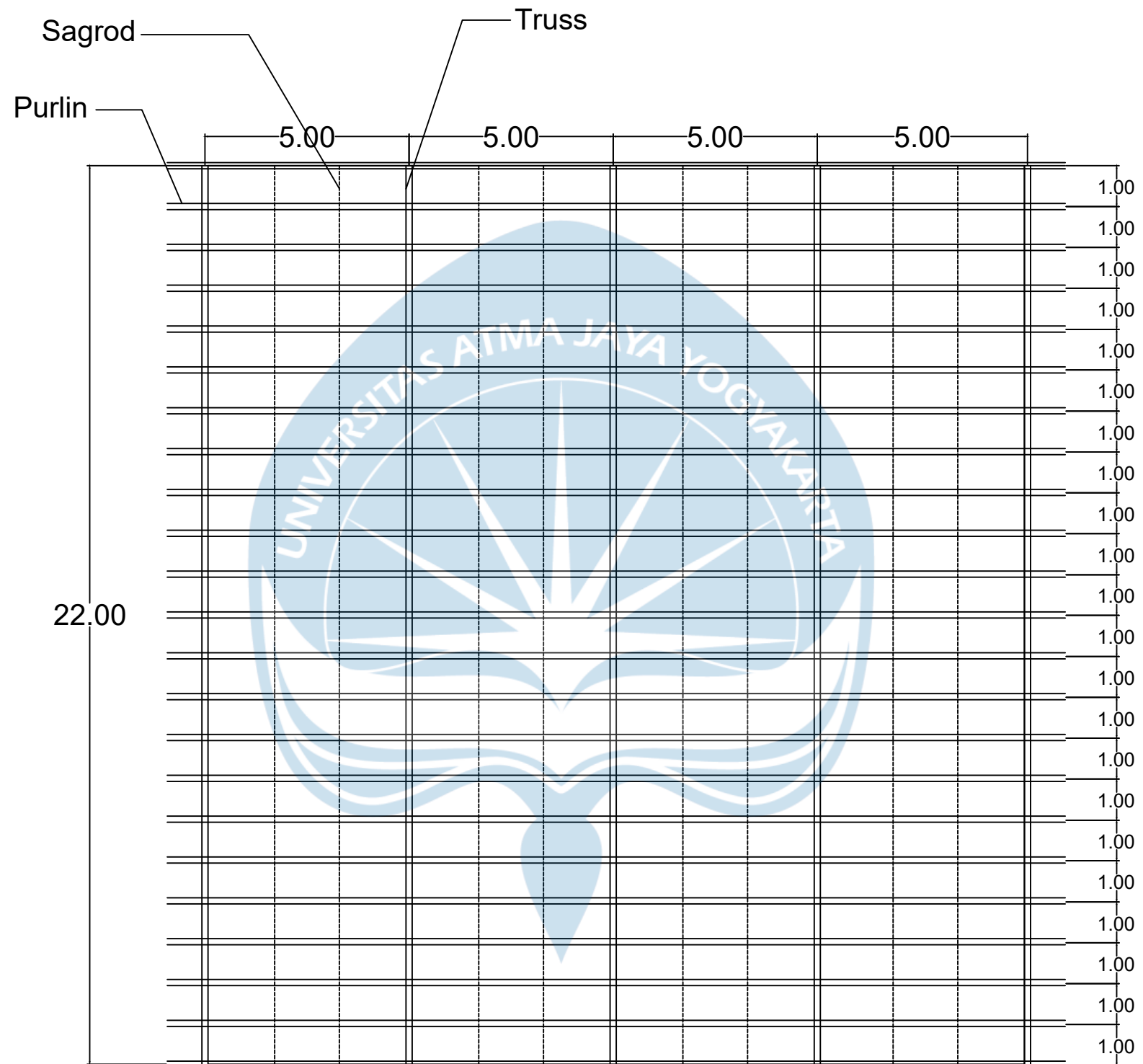
Appendix 4.8 BOQ

No	WORK ITEM	PRICE	TOTAL PRICE
I	PREPARATION WORK		
	Preparation Work	Rp 6.848.050.349,01	Rp 6.848.050.349,01
II	STRUCTURAL WORK		
	Structural Work	Rp 20.478.651.920,04	Rp 20.478.651.920,04
III	ARCHITECHTURAL WORK		
	Architechtural work	Rp 4.135.856.253,87	Rp 4.135.856.253,87
IV	MECHANICAL ELECTRICAL PLUMBING WORK		
	Waater and Electricity Work	Rp 271.338.196,45	Rp 271.338.196,45
Total Budget			Rp 31.733.896.719,37
PPN (10%)			Rp 3.173.389.671,94
Jumlah Total Rencana Anggaran Biaya			Rp 34.907.286.391,30
Luas Bangunan Terbangun (m2)			8480
Harga Pembangunan Per Meter			Rp 4.116.425,28




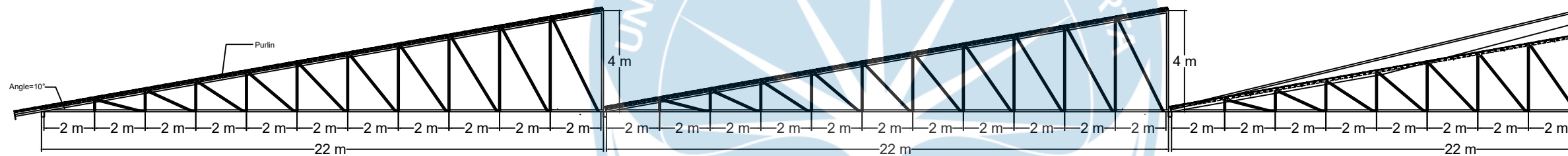







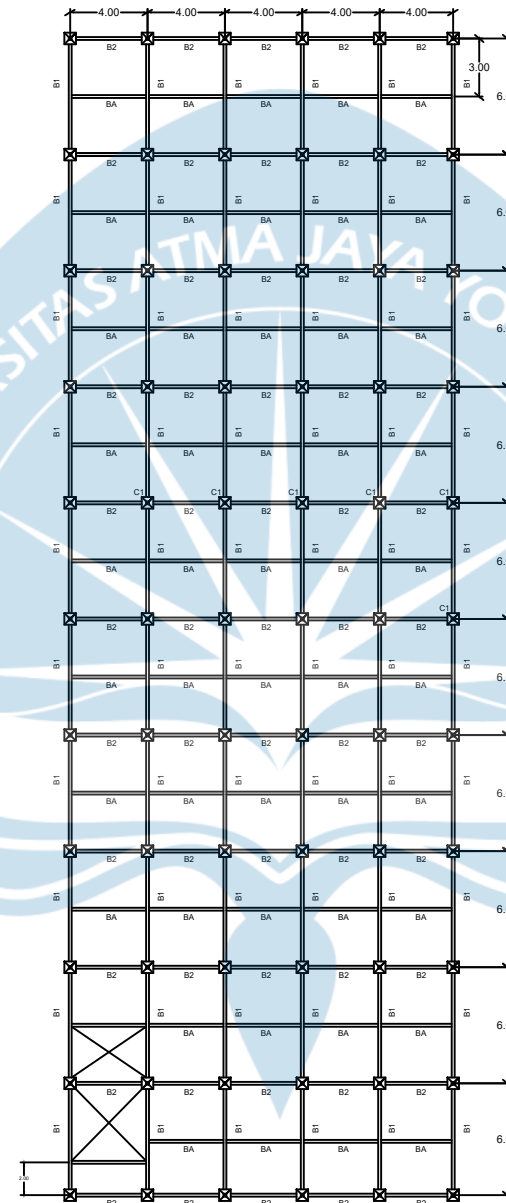
TOP VIEW ROOF DESIGN
SCALE 1 : 200

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	TOP VIEW ROOF DESIGN		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




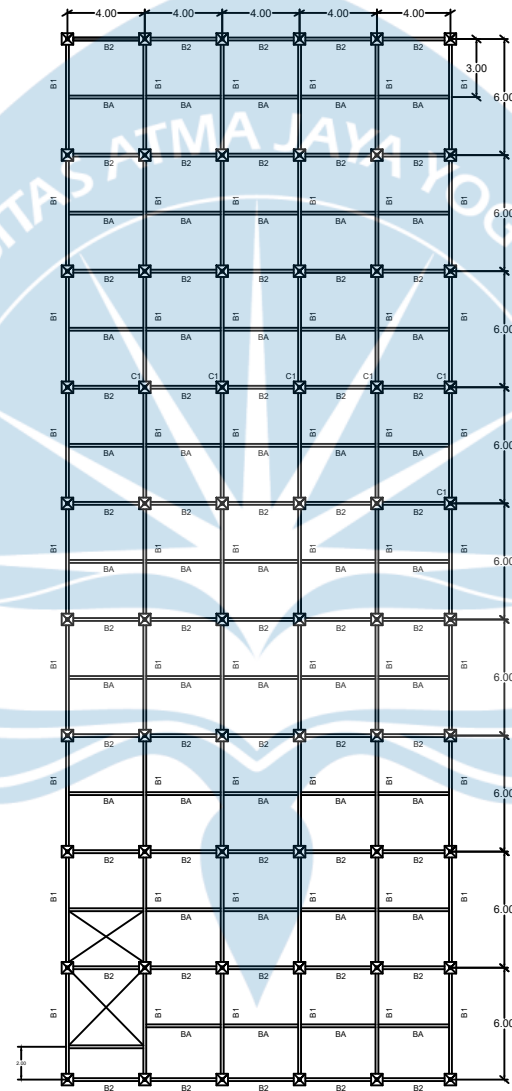

SIDE VIEW ROOF DESIGN
 SCALE 1 : 200

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	ROOF DESIGN		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




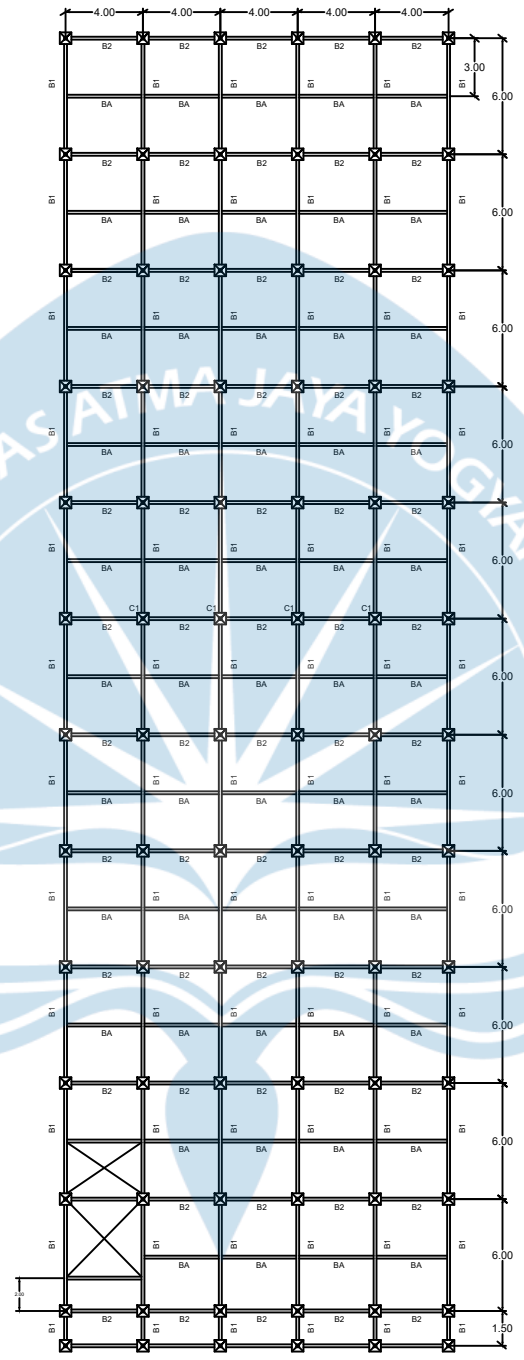
1st FLOOR BEAM BUILDING 1 LAYOUT
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Beam Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




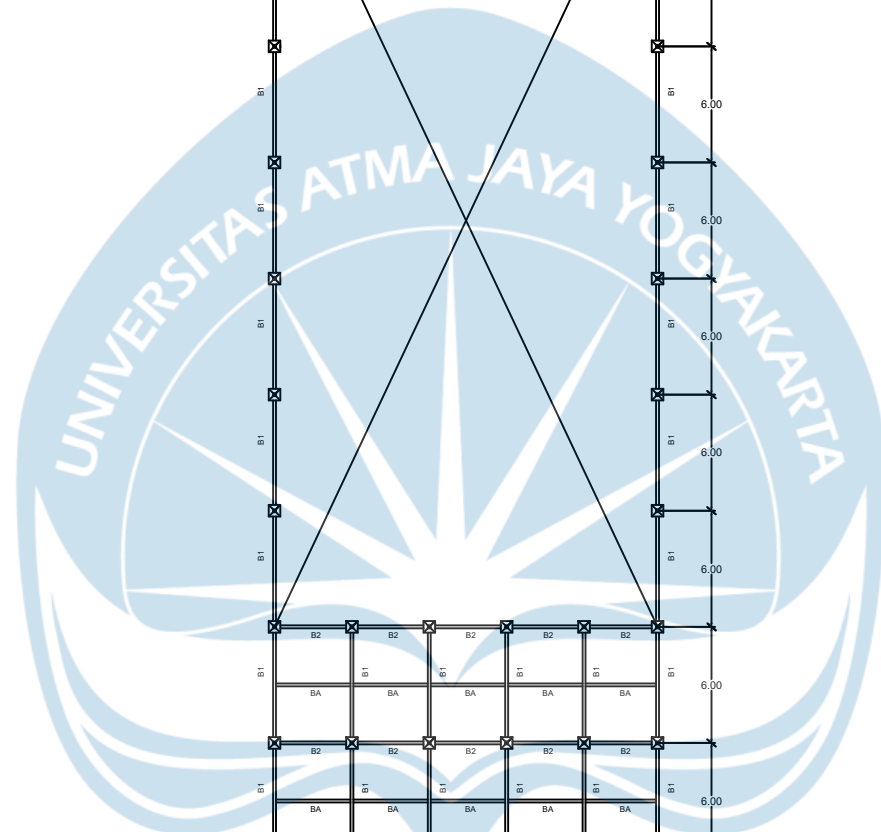
2nd FLOOR BEAM BUILDING 1
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Floor Beam Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




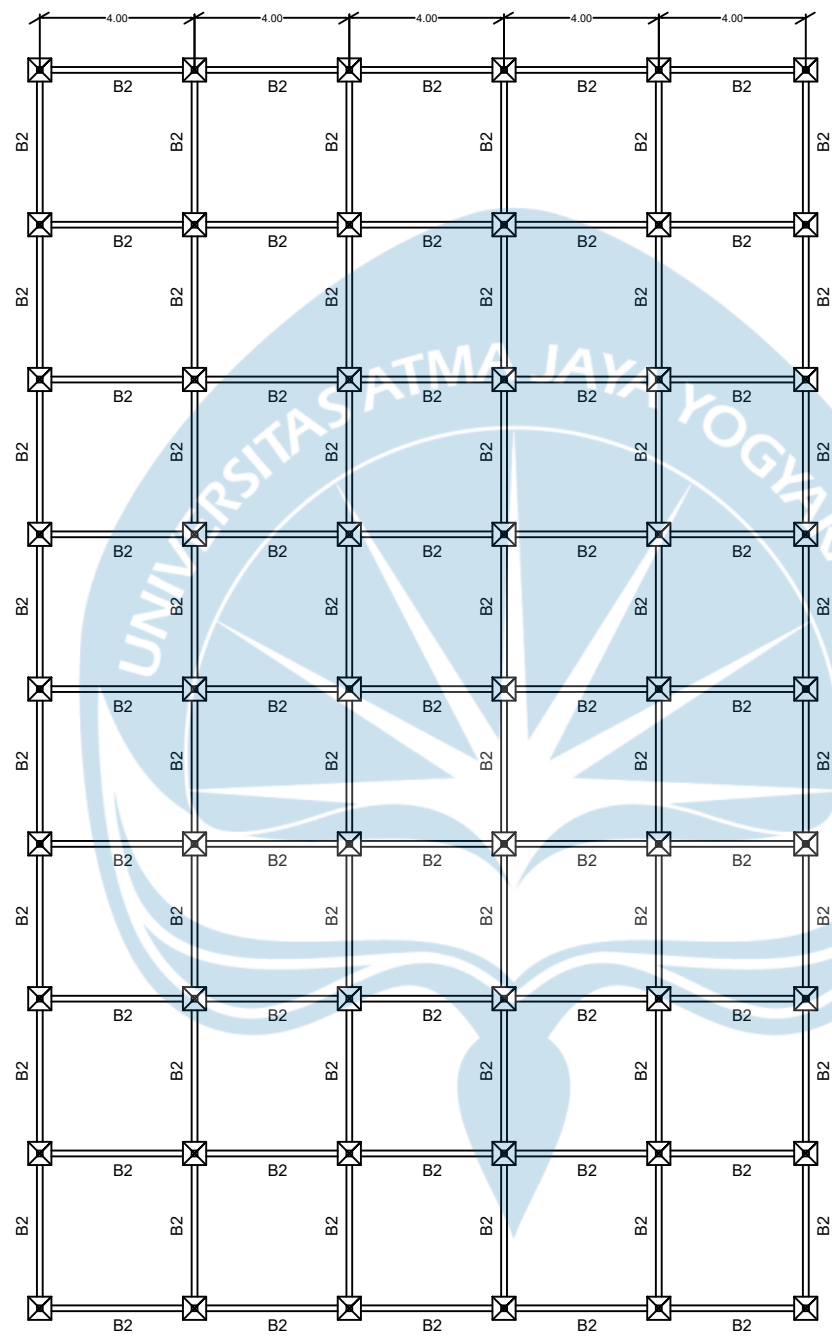
3rd FLOOR BEAM BUILDING 1
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	3rd Floor Beam Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




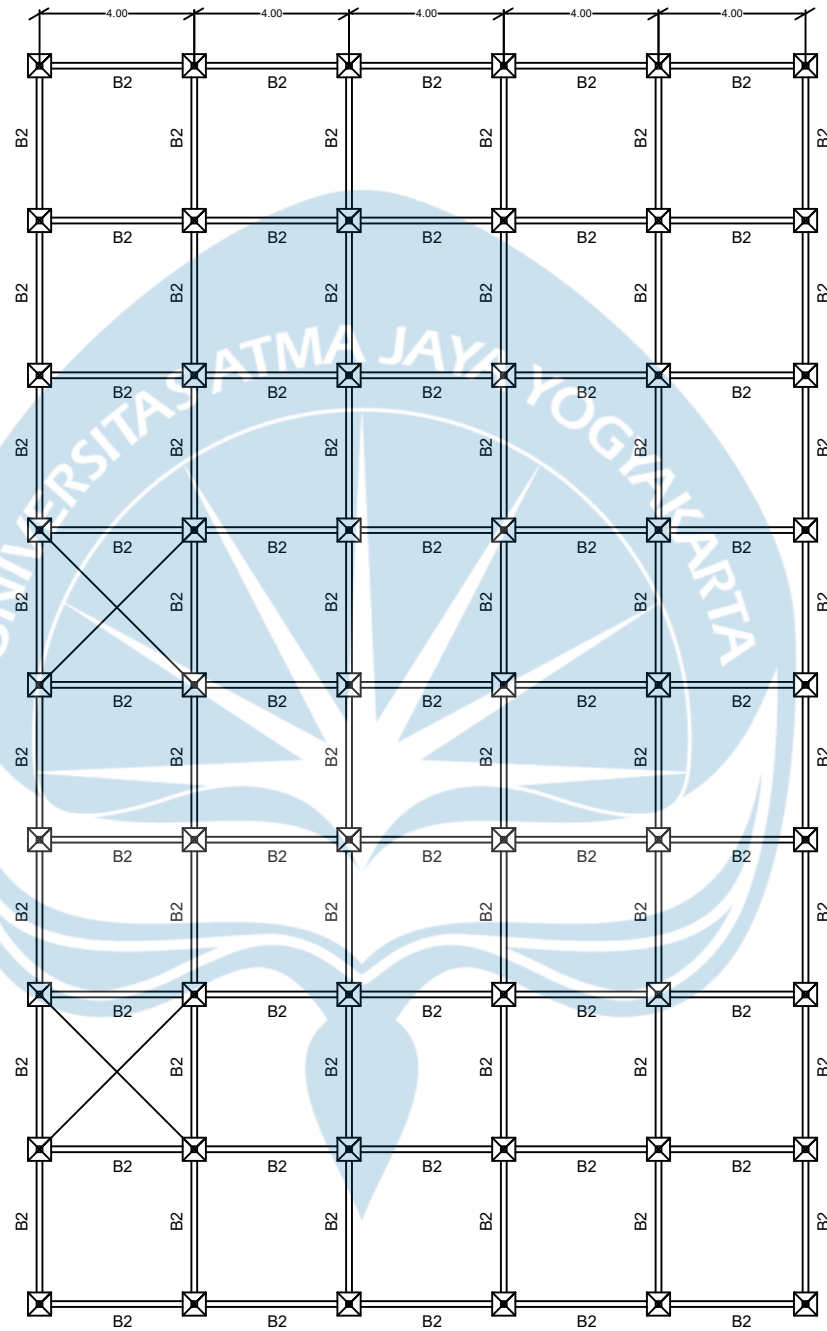
4th FLOOR BEAM BUILDING 1
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Beam Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




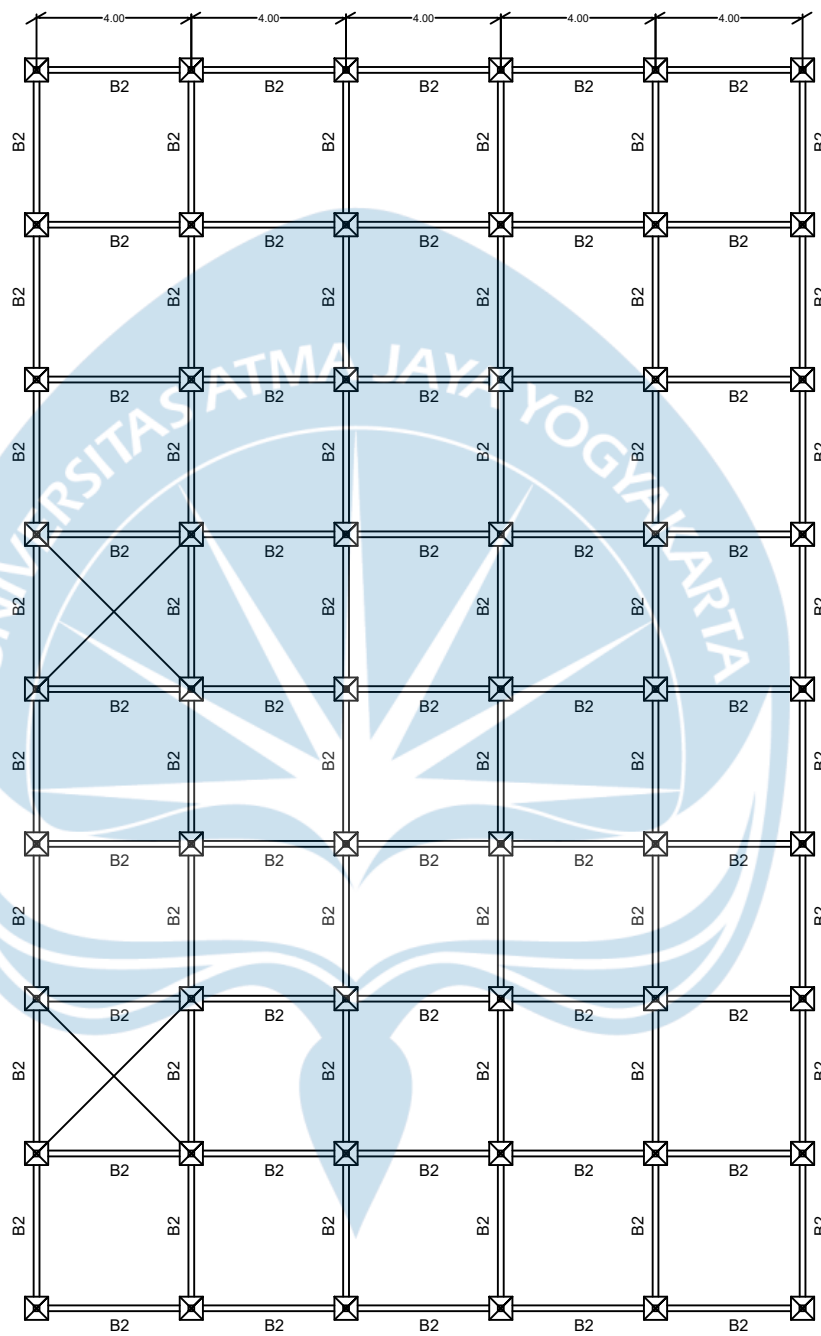
1st FLOOR BEAM BUILDING 2 LAYOUT
SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Beam Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




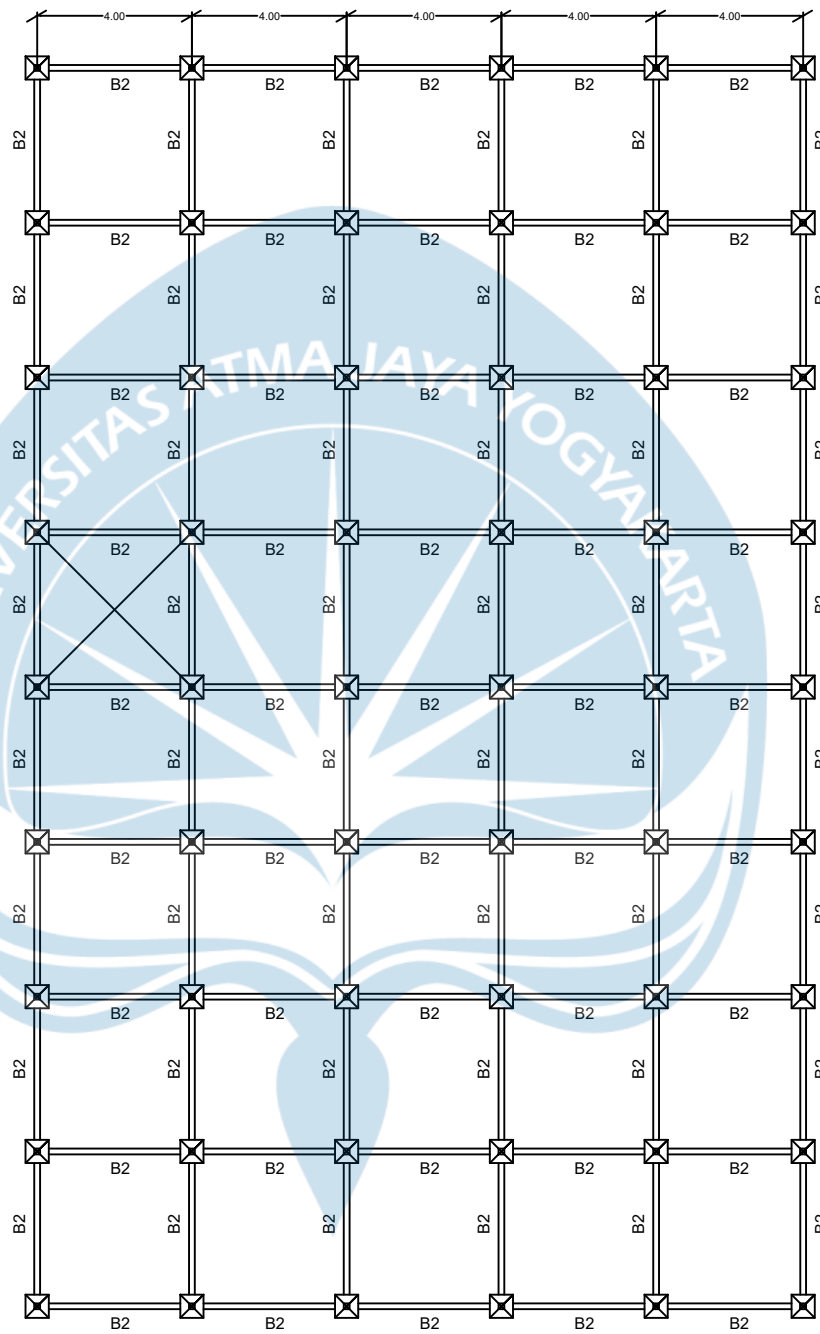

2nd FLOOR BEAM BUILDING 2
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Floor Beam Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




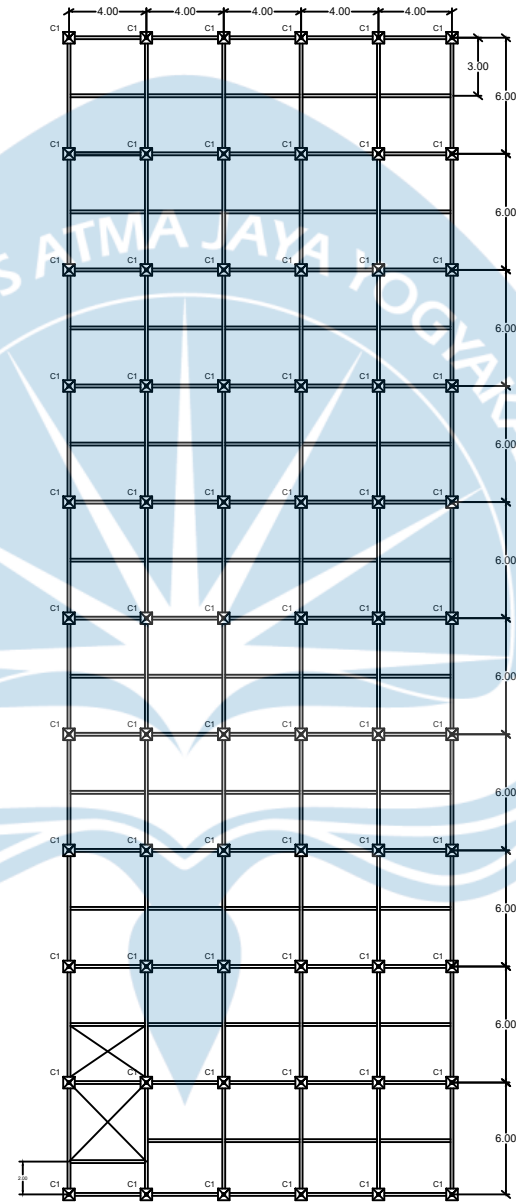

3rd FLOOR BEAM BUILDING 2
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
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	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




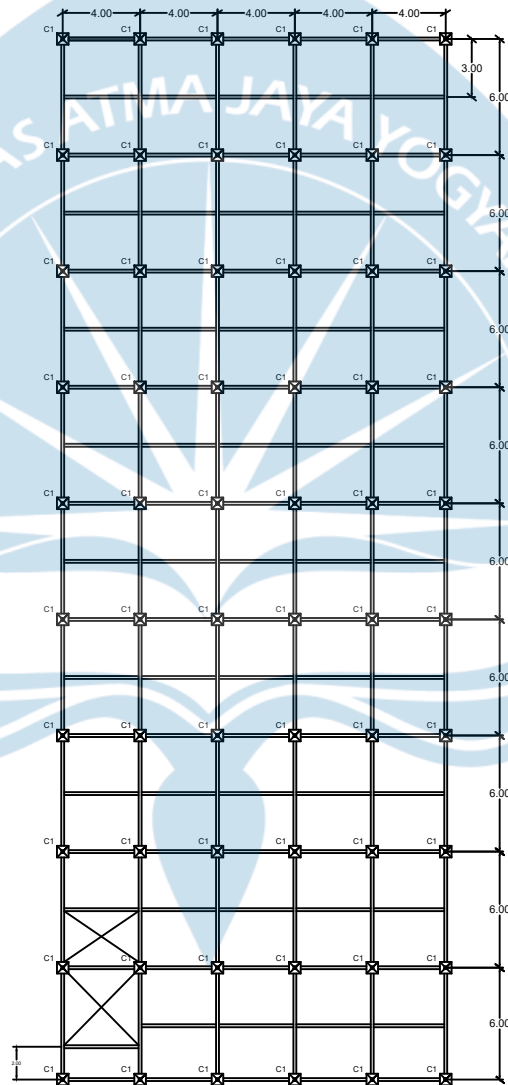

4th FLOOR BEAM BUILDING 2
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Beam Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




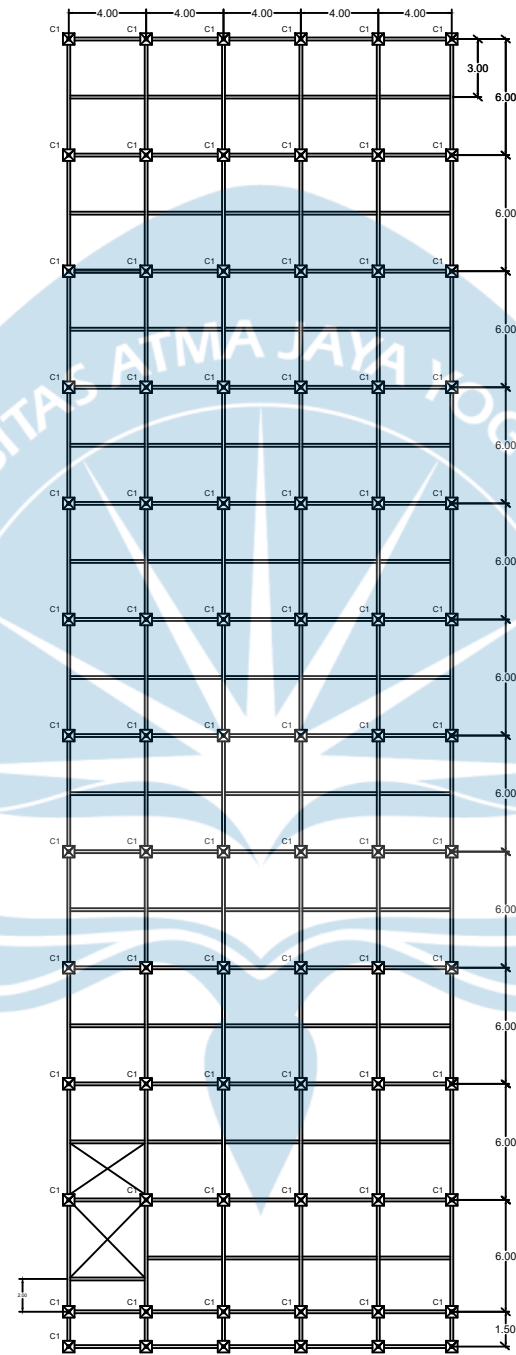
1st FLOOR COLUMN BUILDING 1
SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Column Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




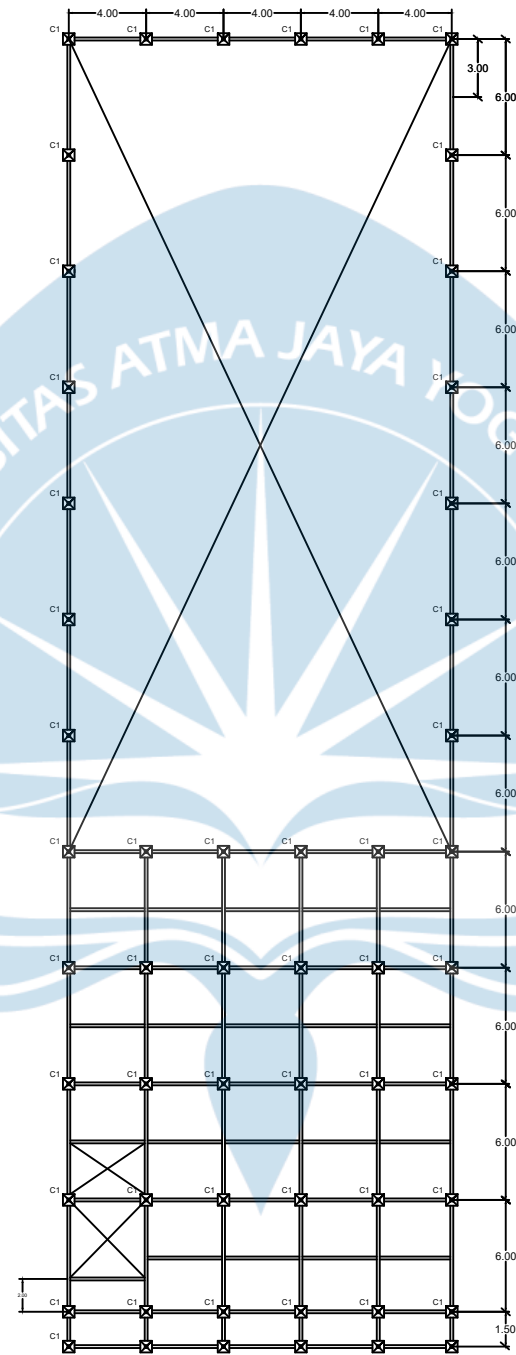

2nd FLOOR COLUMN BUILDING 1
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Column Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




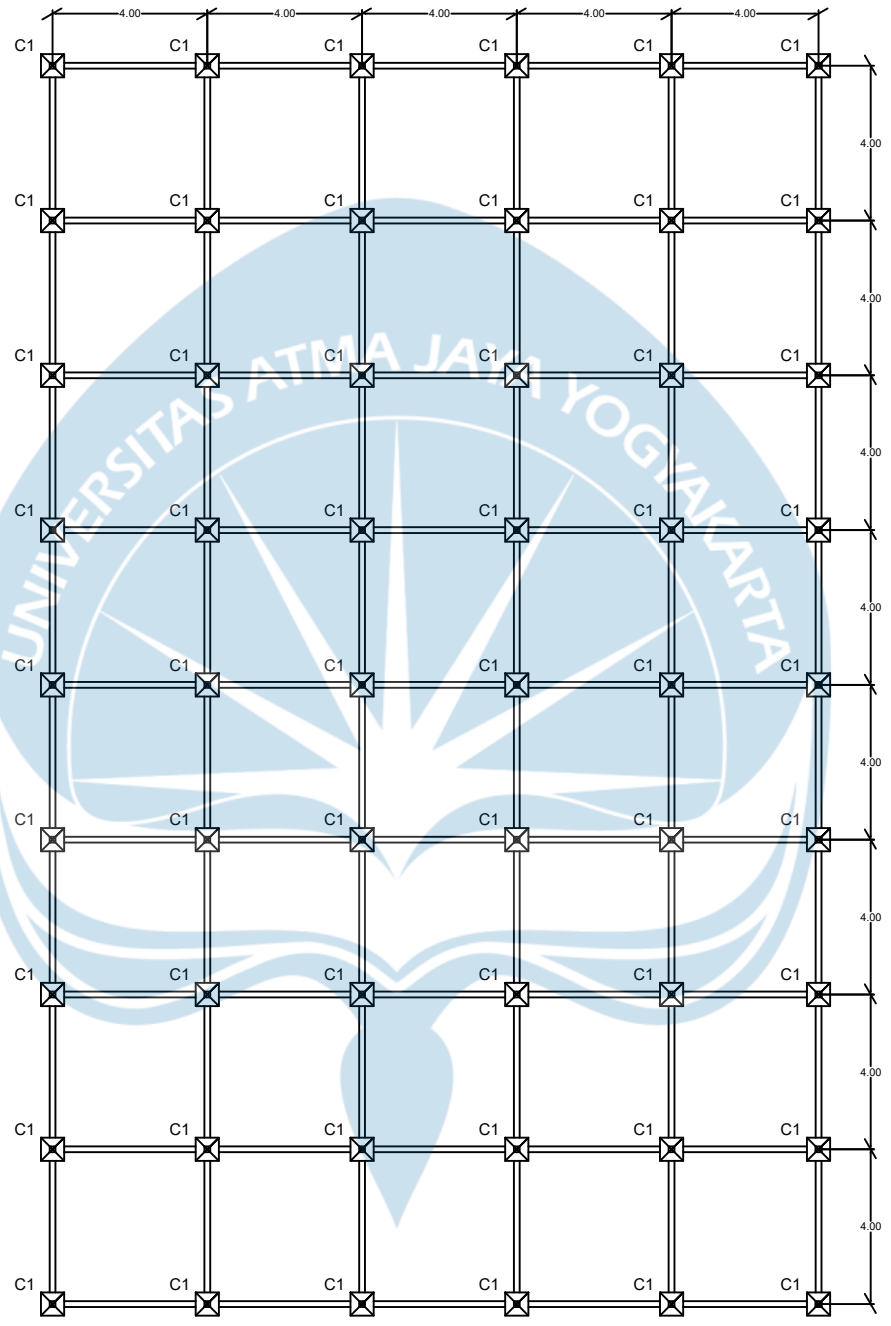

3rd FLOOR COLUMN BUILDING 1
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	3rd Floor Column Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




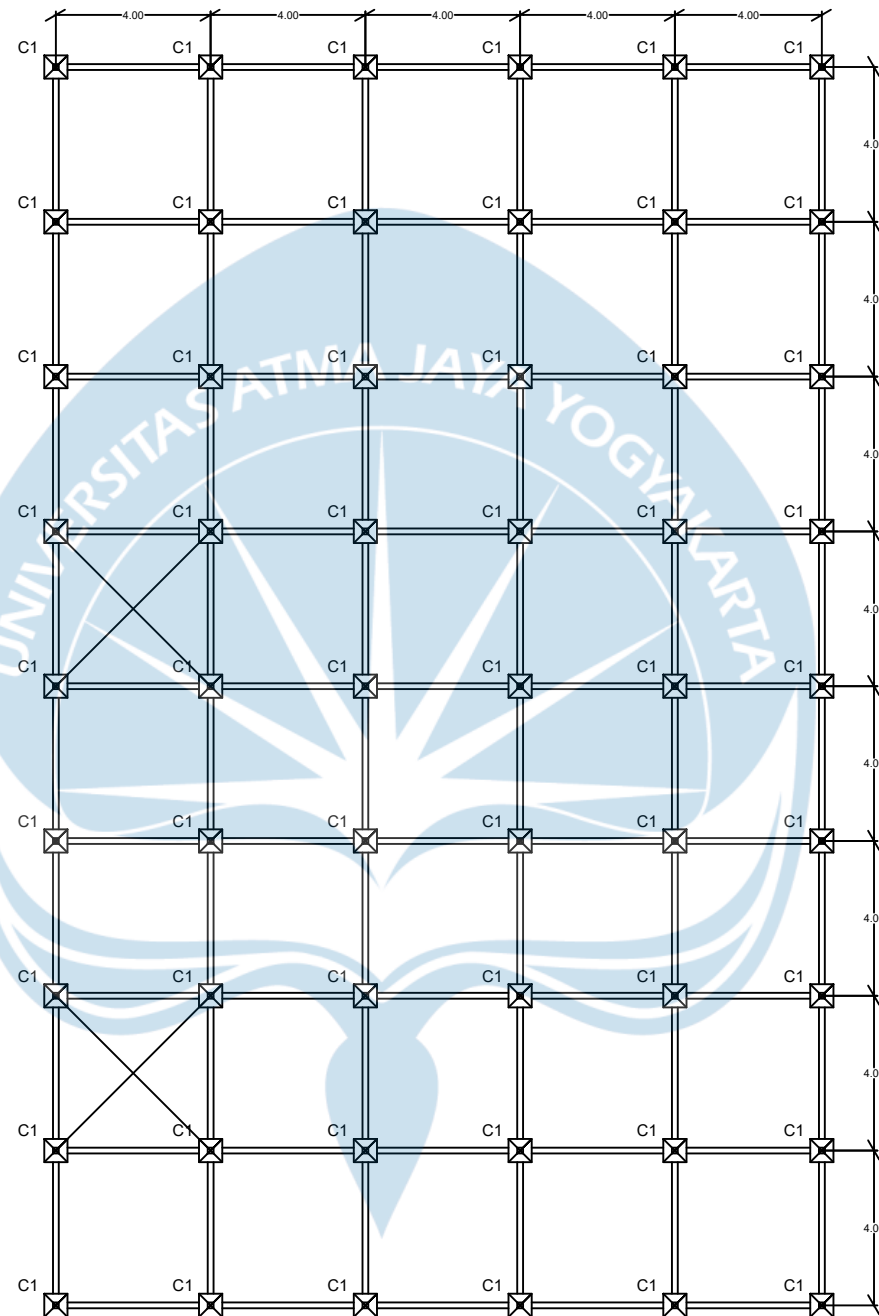
4th FLOOR COLUMN BUILDING 1
SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Column Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




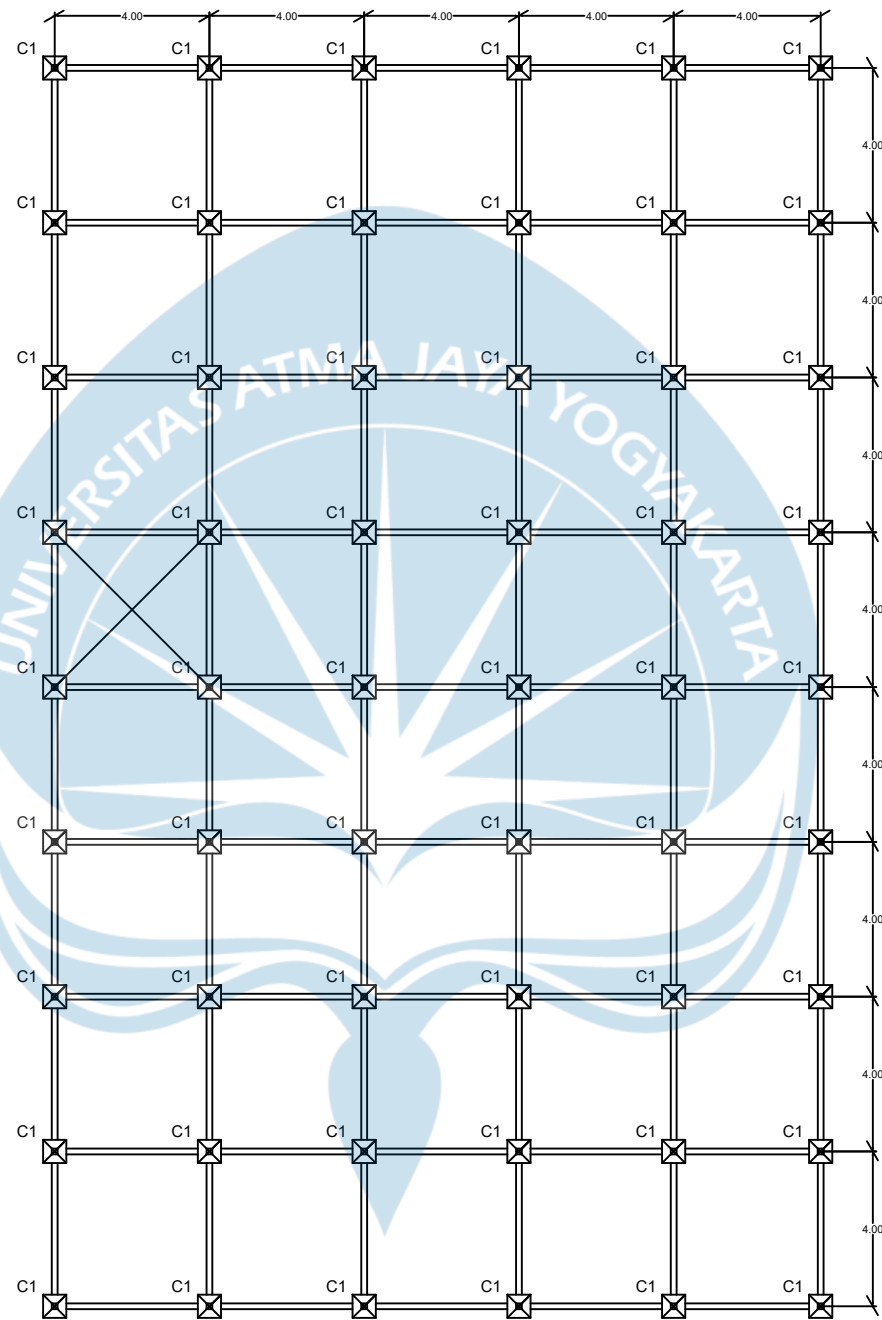
1st FLOOR COLUMN BUILDING 2
SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Column Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




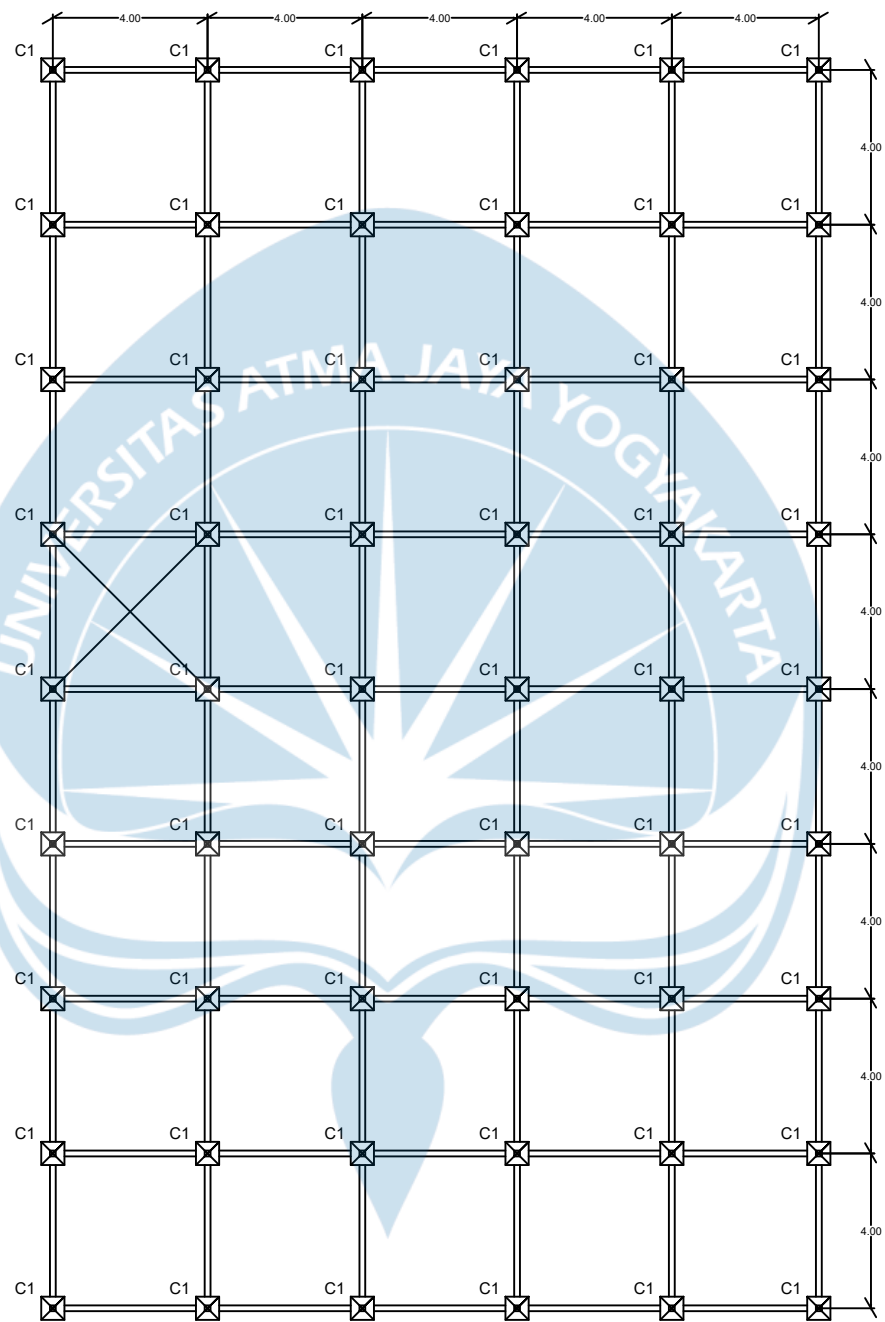

2nd FLOOR COLUMN BUILDING 2
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Floor Column Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




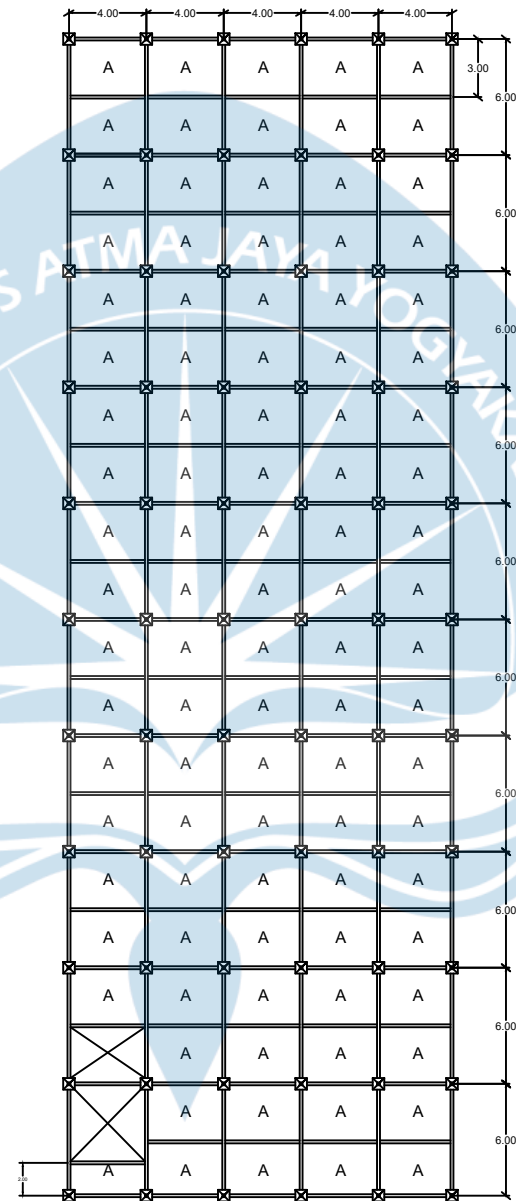

3rd FLOOR COLUMN BUILDING 2
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	3rd Floor Column Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




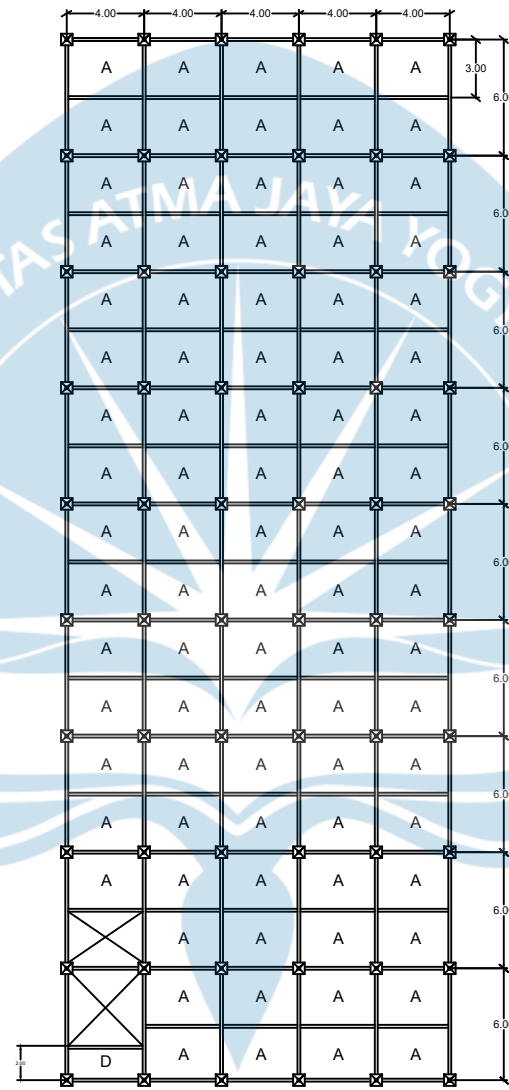

4th FLOOR COLUMN BUILDING 2
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Column Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




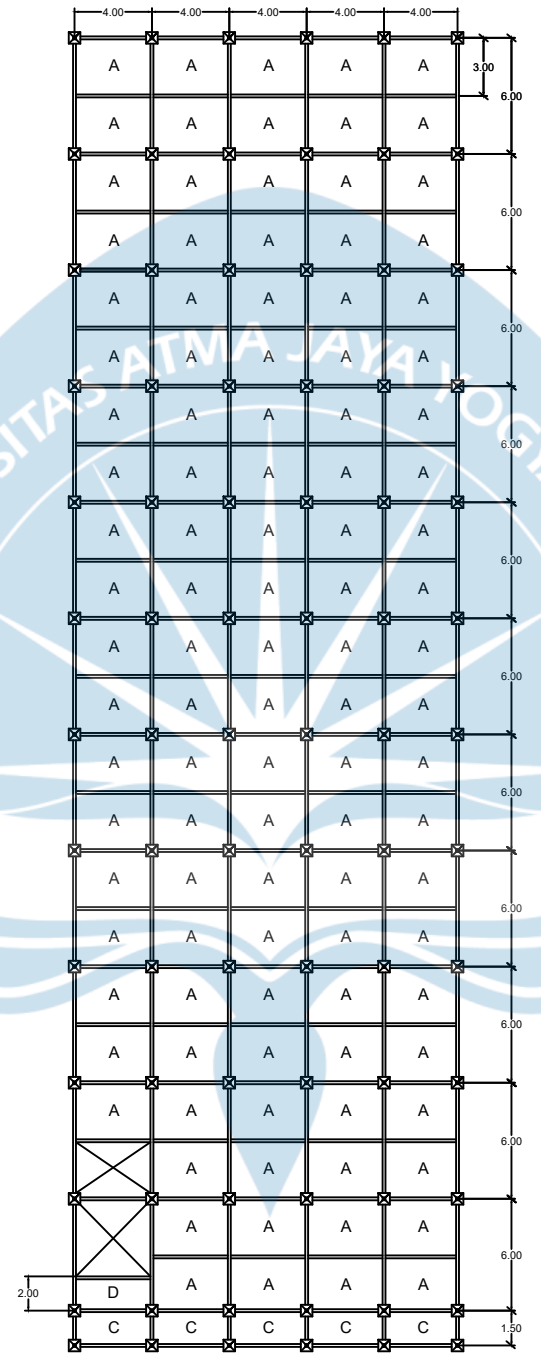
1st FLOOR SLAB BUILDING 1
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Slab Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




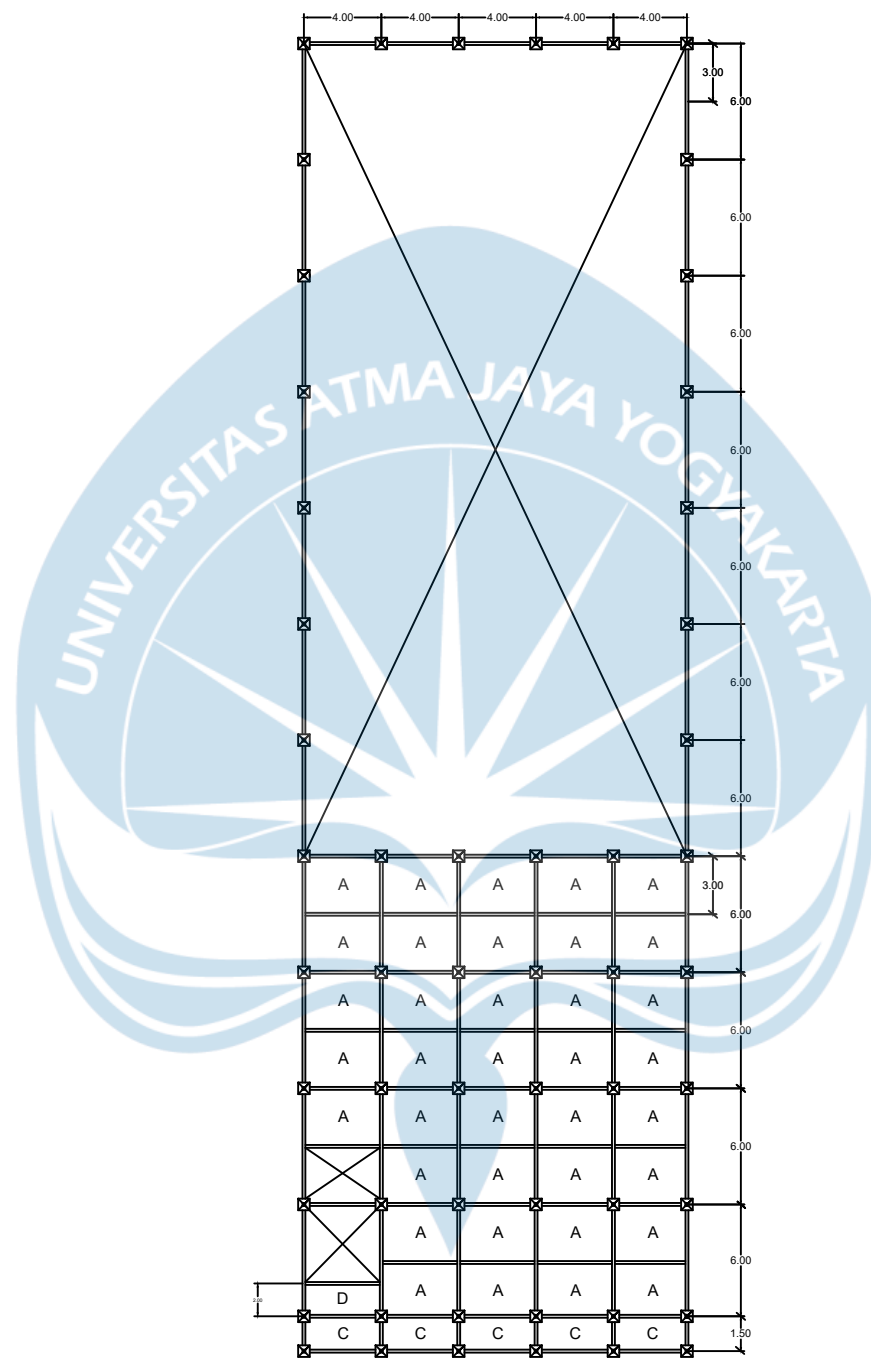

2nd FLOOR SLAB BUILDING 1
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Floor Slab Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




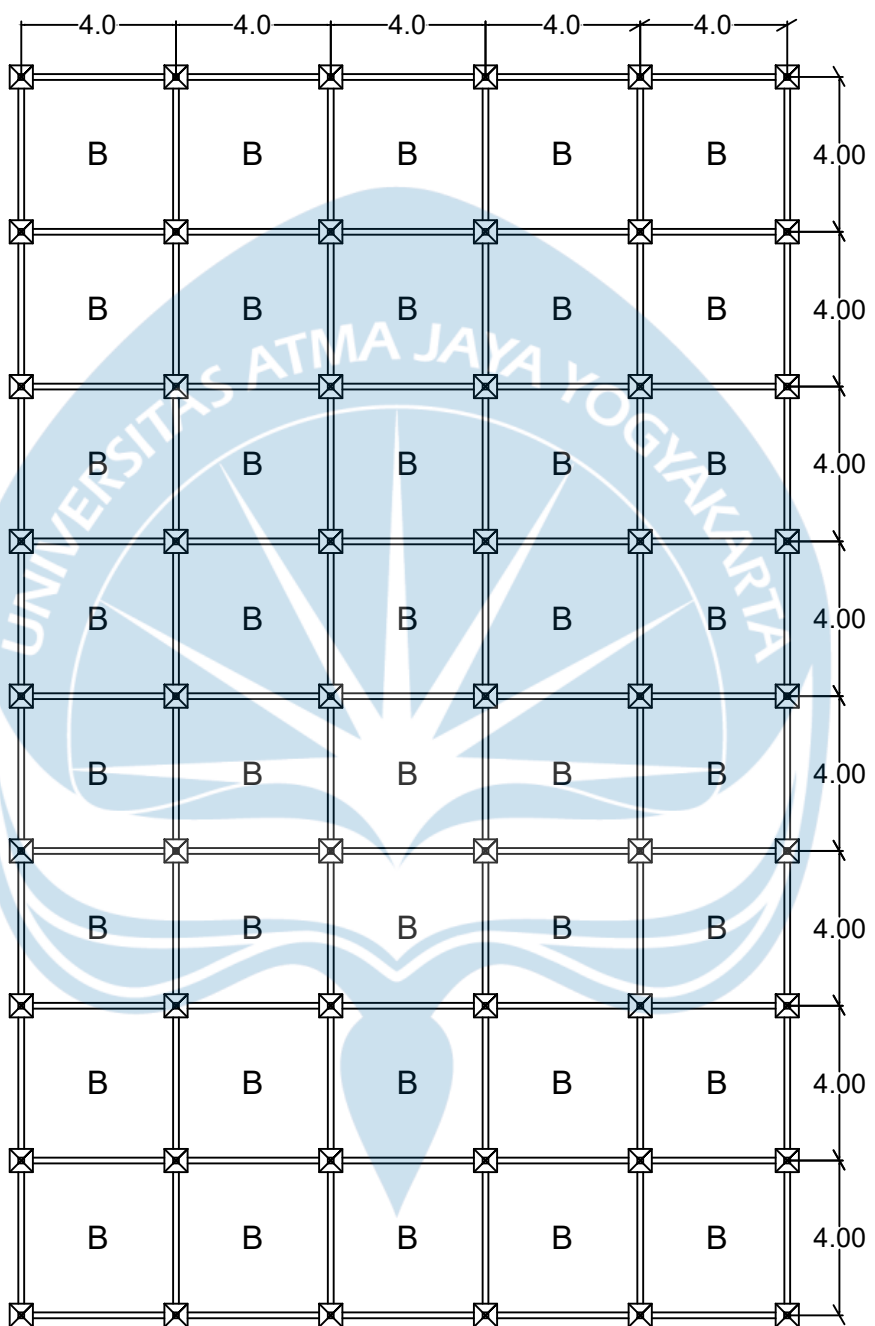
3rd FLOOR SLAB BUILDING 1
SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	3rd Floor Slab Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




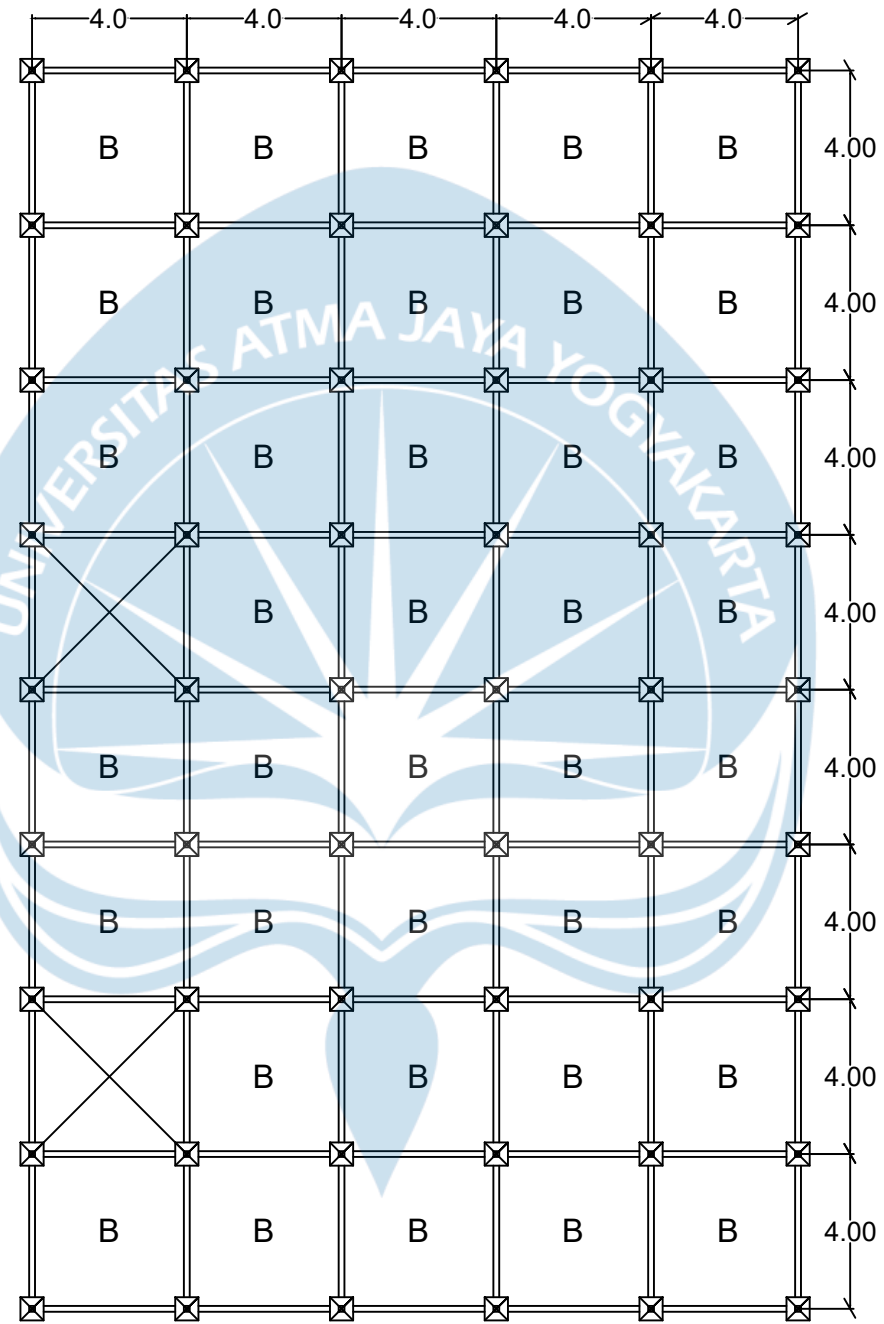

4th FLOOR SLAB BUILDING 1
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Slab Building 1		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity			
				Johan Ardianto, S.T., M.Eng.			




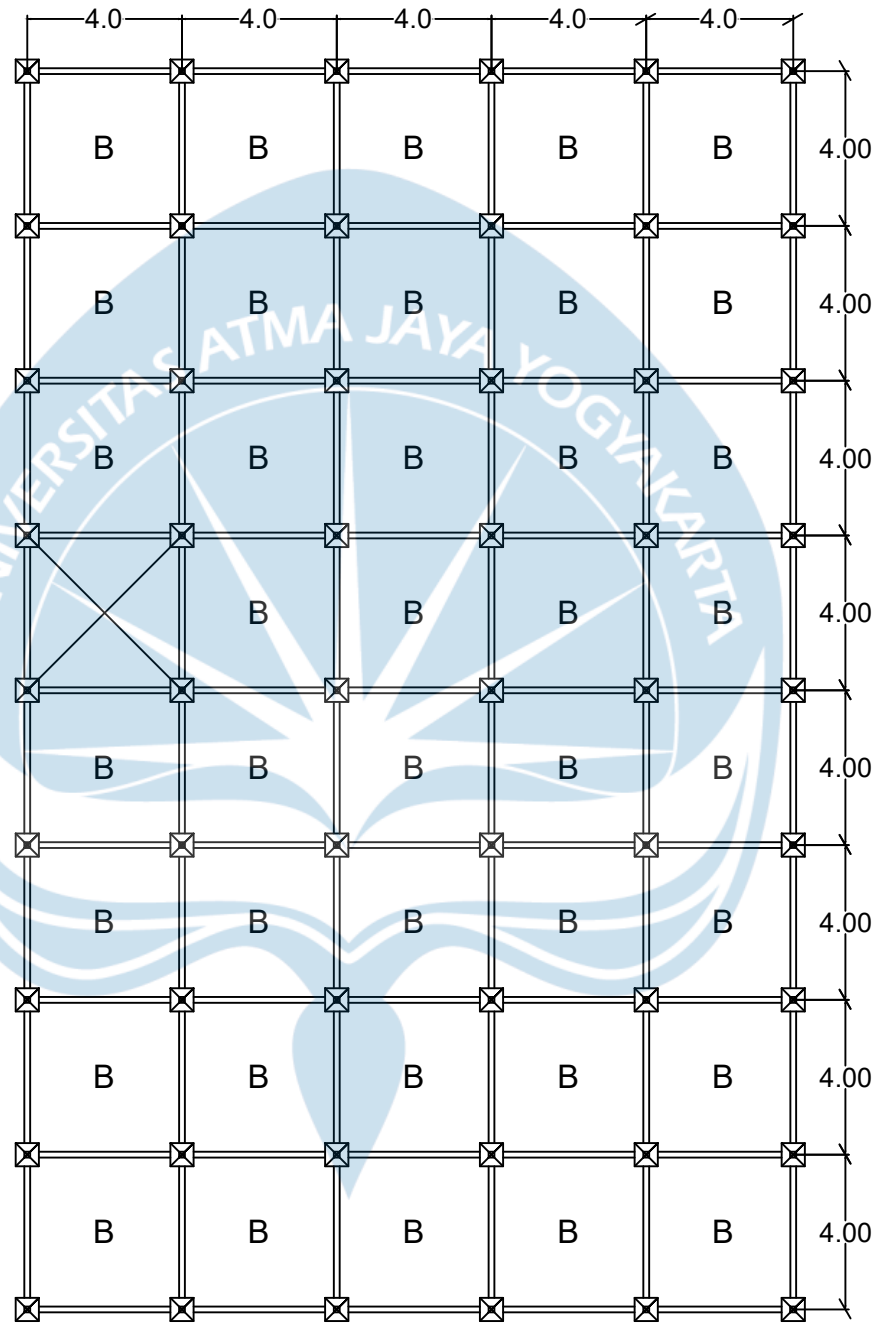

1st FLOOR SLAB BUILDING 2
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	1st Floor Slab Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




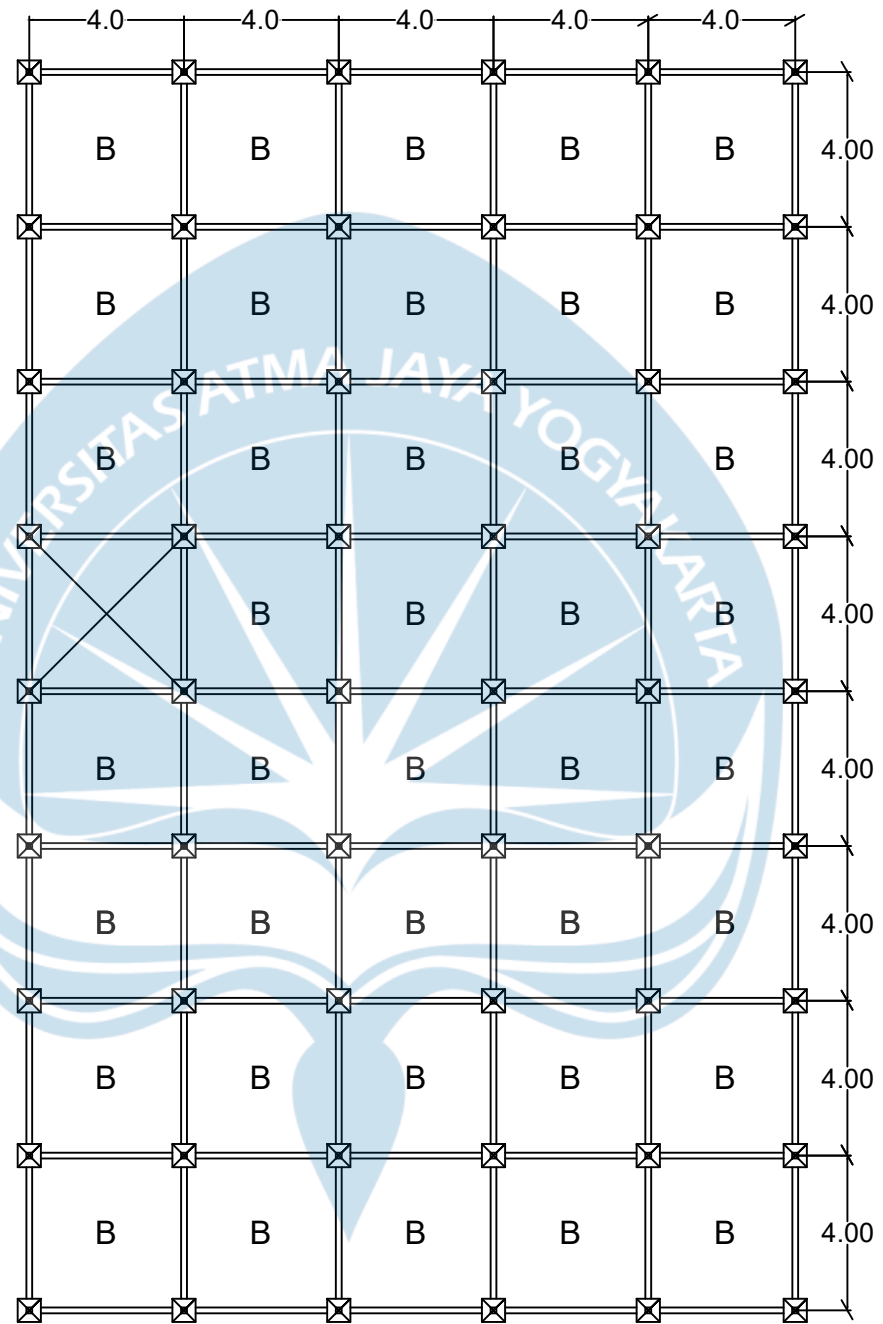

2nd FLOOR SLAB BUILDING 2
 SCALE 1 : 250


 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	2nd Floor Slab Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




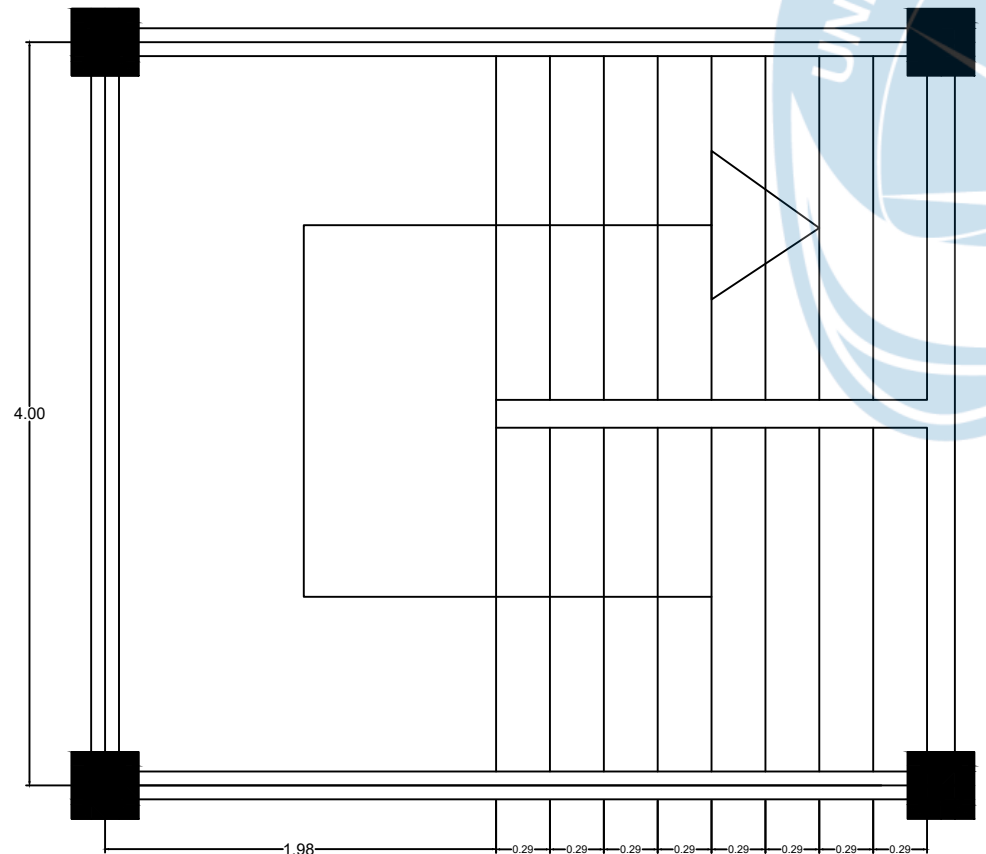
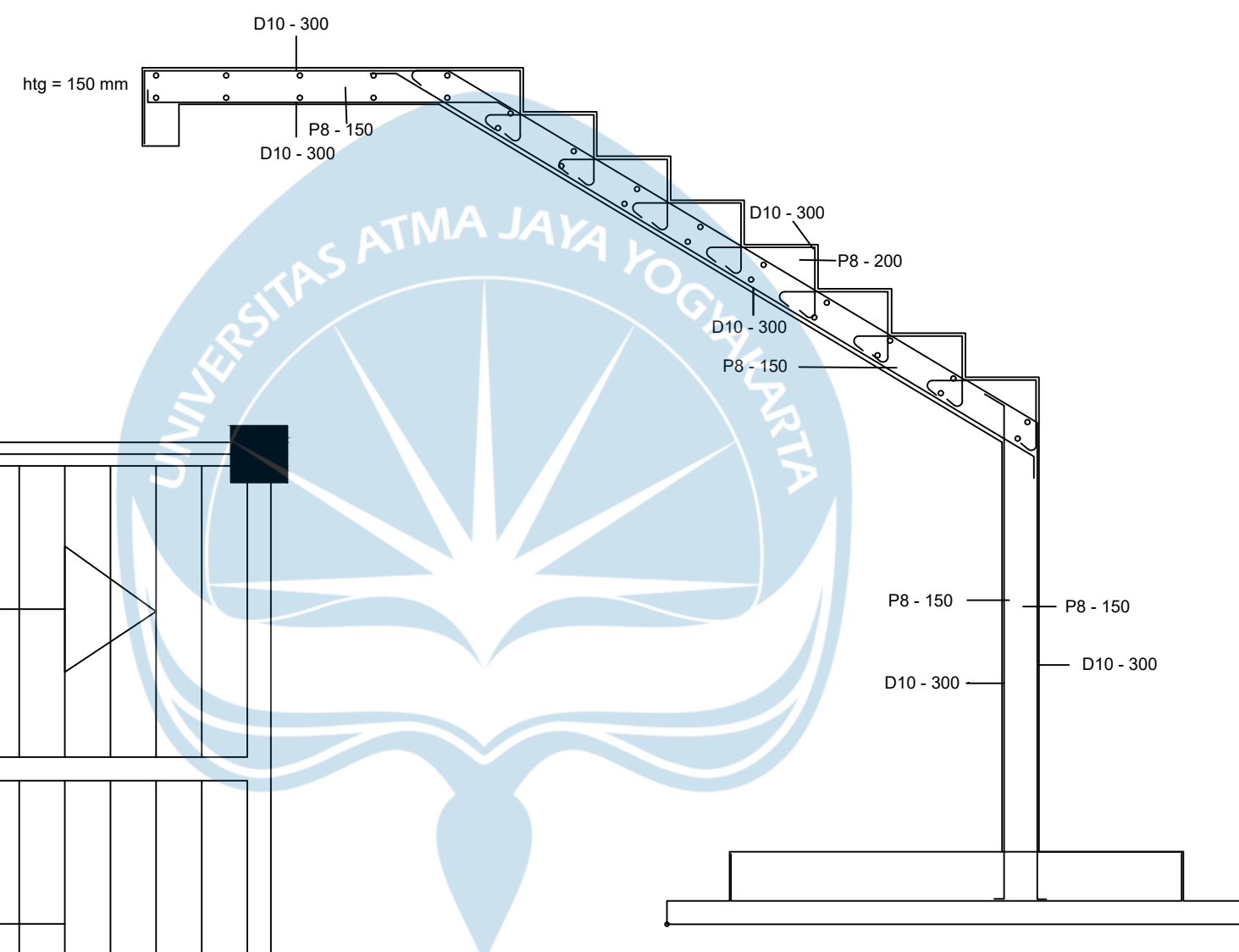
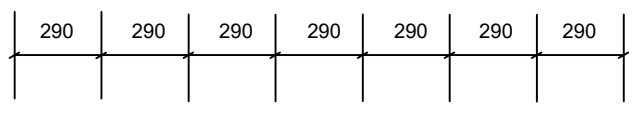
3rd FLOOR SLAB BUILDING 2
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	3rd Floor Slab Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




4th FLOOR SLAB BUILDING 2
 SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	4th Floor Slab Building 2		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			



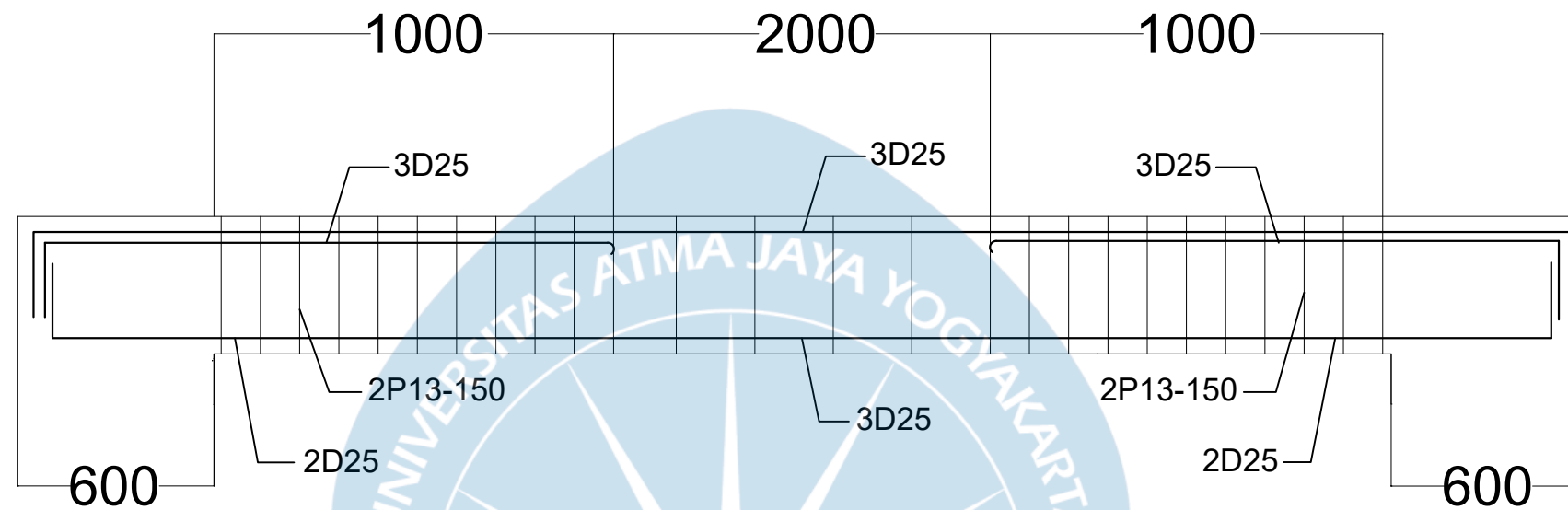
STAIR DES
SCALE 1 : 250



Atma Jaya Yogyakarta University


Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note
PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	Stair Design for Building 1 & 2	
Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.					
CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING					

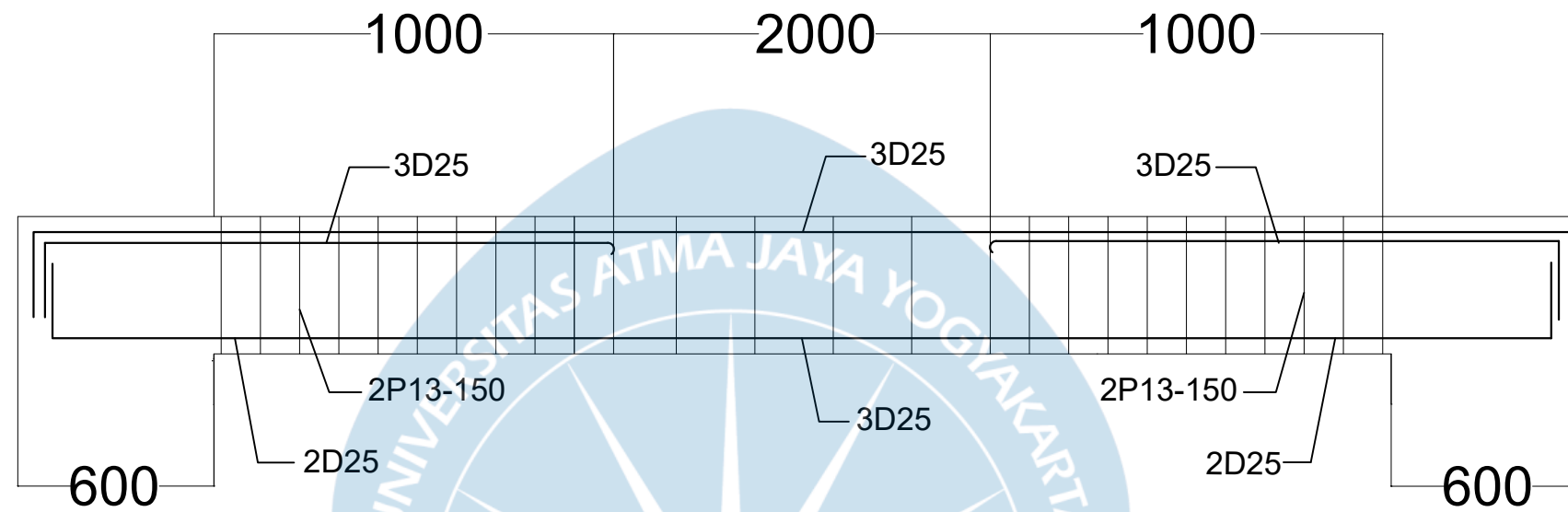
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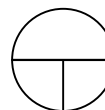
	B2 Support	B2 Field
SKETCH		
DIMENSION	400 x 500	400 x 500
TOP REINFORCEMENT	3D25	3D25
BOTTOM REINFORCEMENT	2D25	3D25
STIRRUP	2P13-150	2P13-150



MAIN BEAM 2
 SCALE 1 : 400

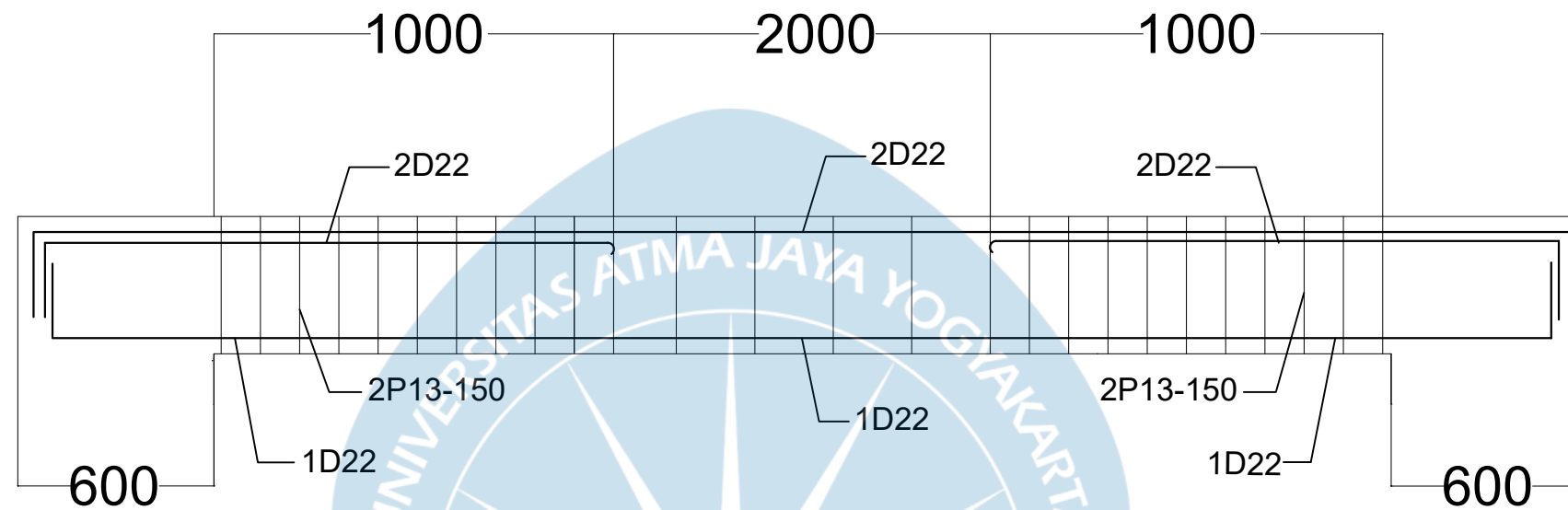
 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	MAIN BEAM 40 X 50 REINFORCEMENT		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			



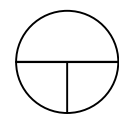
	B1 Support	B1 Field
SKETCH		
DIMENSION	400 x 550	400 x 550
TOP REINFORCEMENT	3D25	3D25
BOTTOM REINFORCEMENT	2D25	3D25
STIRRUP	2P13-150	2P13-150


MAIN BEAM 1
 SCALE 1 : 400

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	MAIN BEAM 40 X 50 REINFORCEMENT		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




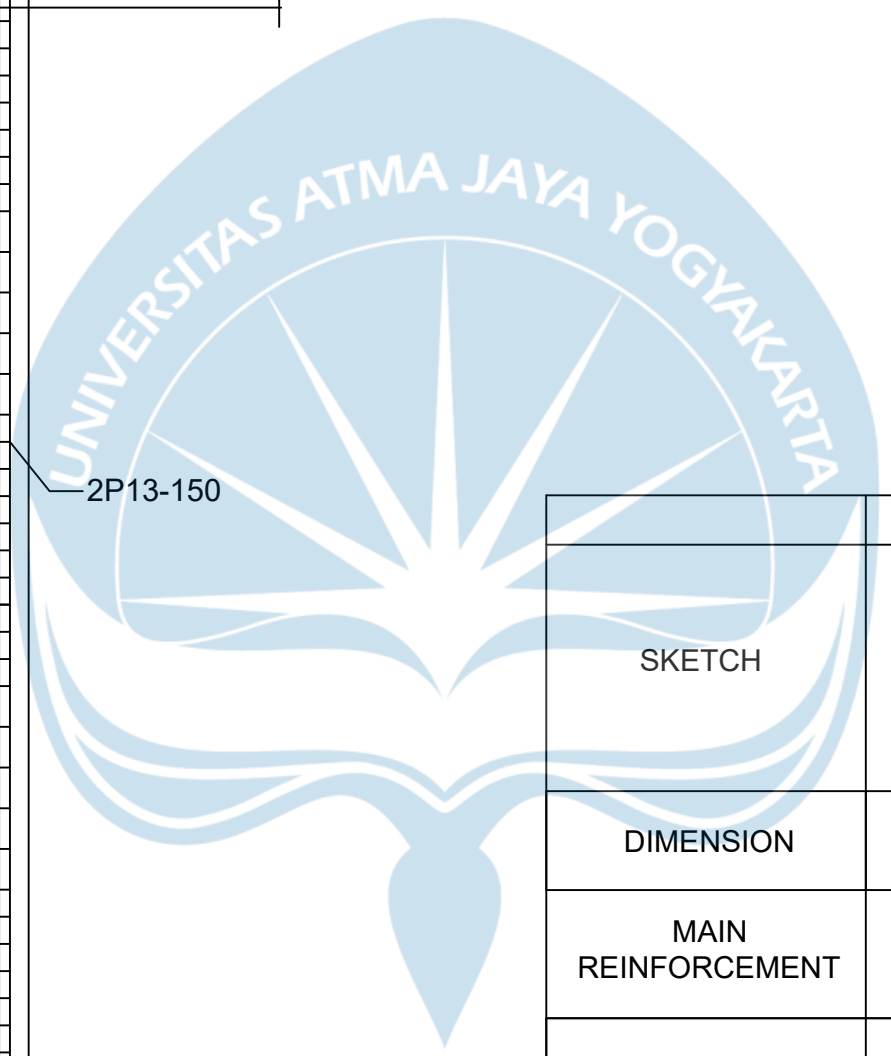
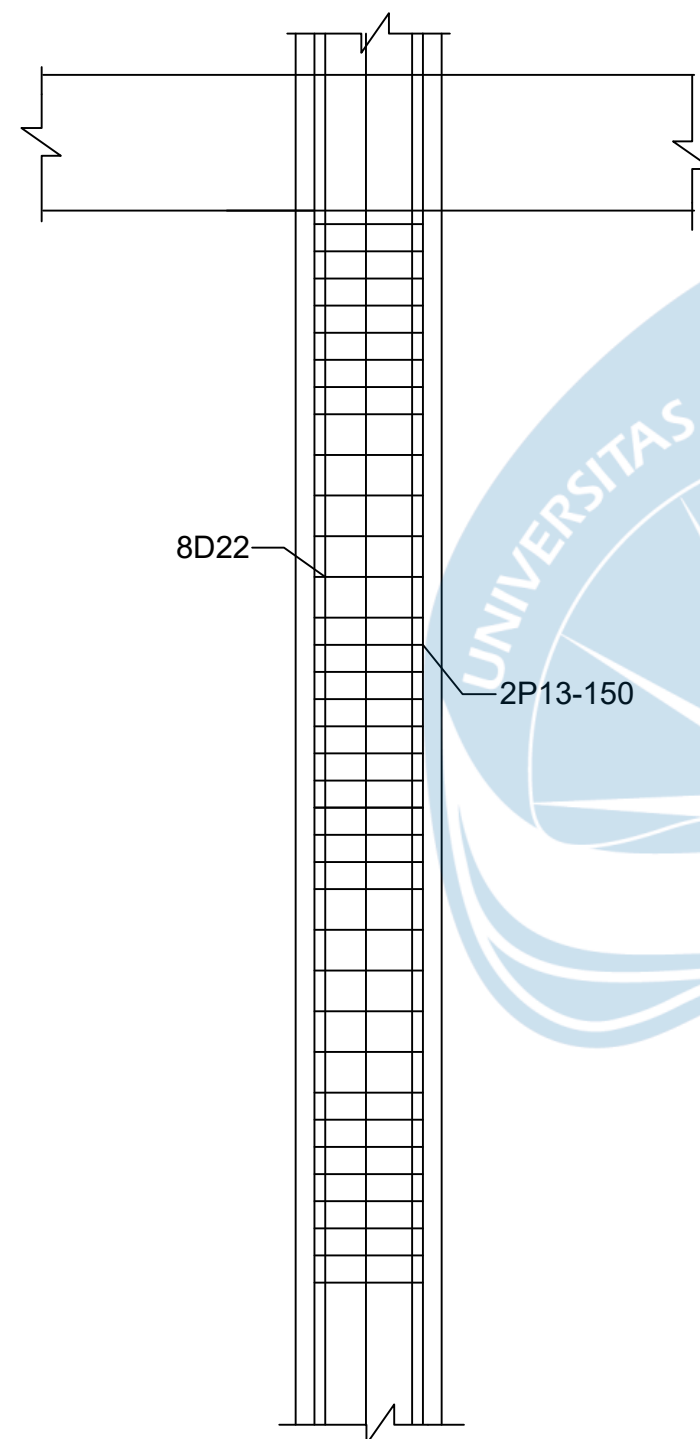
	SB Support	SB Field
SKETCH		
DIMENSION	250 x 350	250 x 350
TOP REINFORCEMENT	2D22	2D22
BOTTOM REINFORCEMENT	1D22	1D22
STIRRUP	2P13-150	2P13-150



SECONDARY BEAM BEAM


SCALE 1 : 400

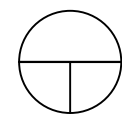
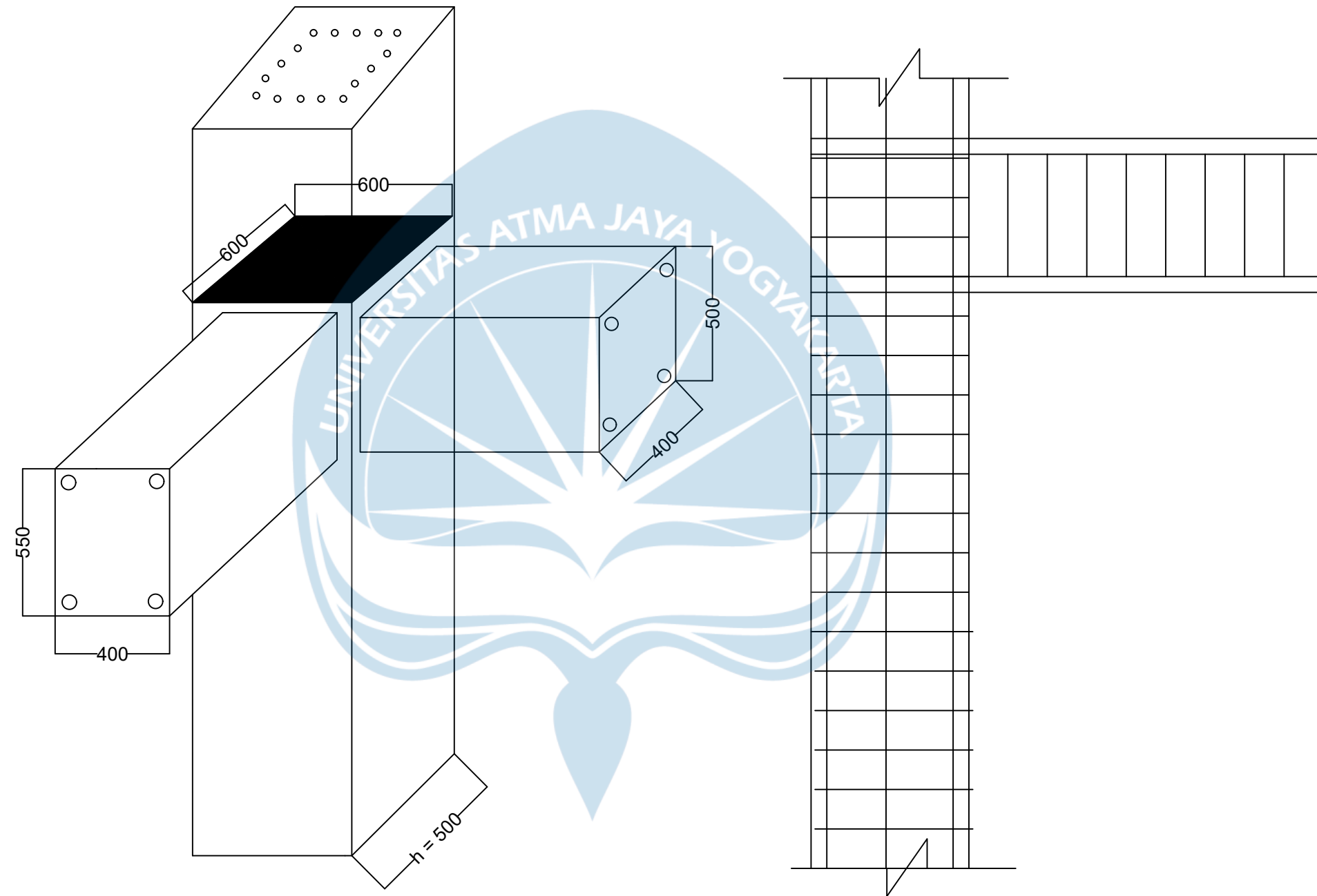
 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	SECONDARY BEAM 25 X 35 REINFORCEMENT		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			



	C1 Support	C1 Field
SKETCH		
DIMENSION	600 x 600	600 x 600
MAIN REINFORCEMENT	8D22	8D22
STIRRUP	2P13-150	2P13-150



MAIN COLUMN
 SCALE 1 : 400

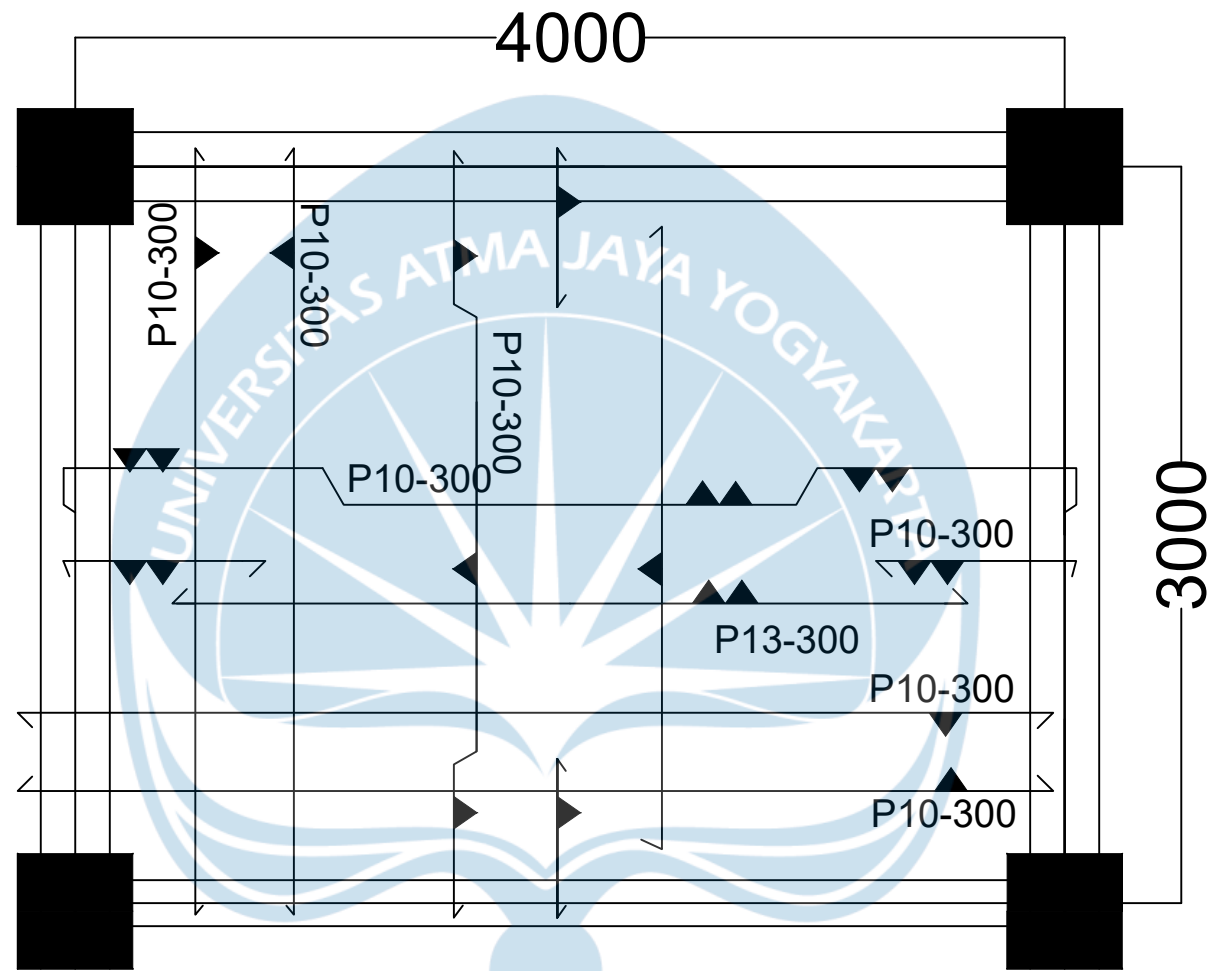
 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	Page
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023 CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834) Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.	COLUMN REINFORCEMENT		

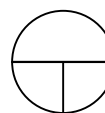



BEAM AND COLUMN CONNECTION

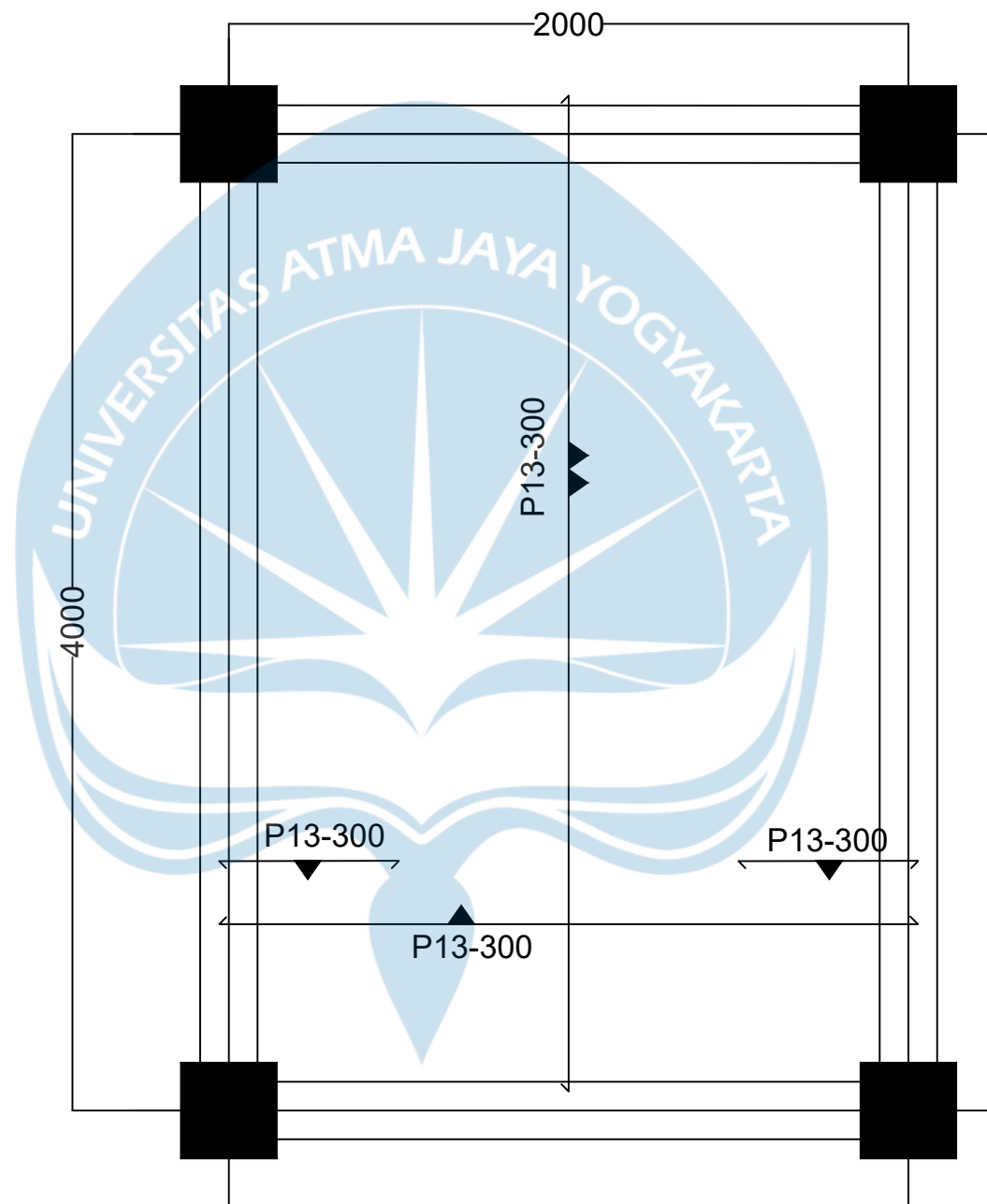
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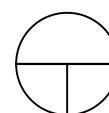
 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	COLUMN AND BEAM CONNECTION		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




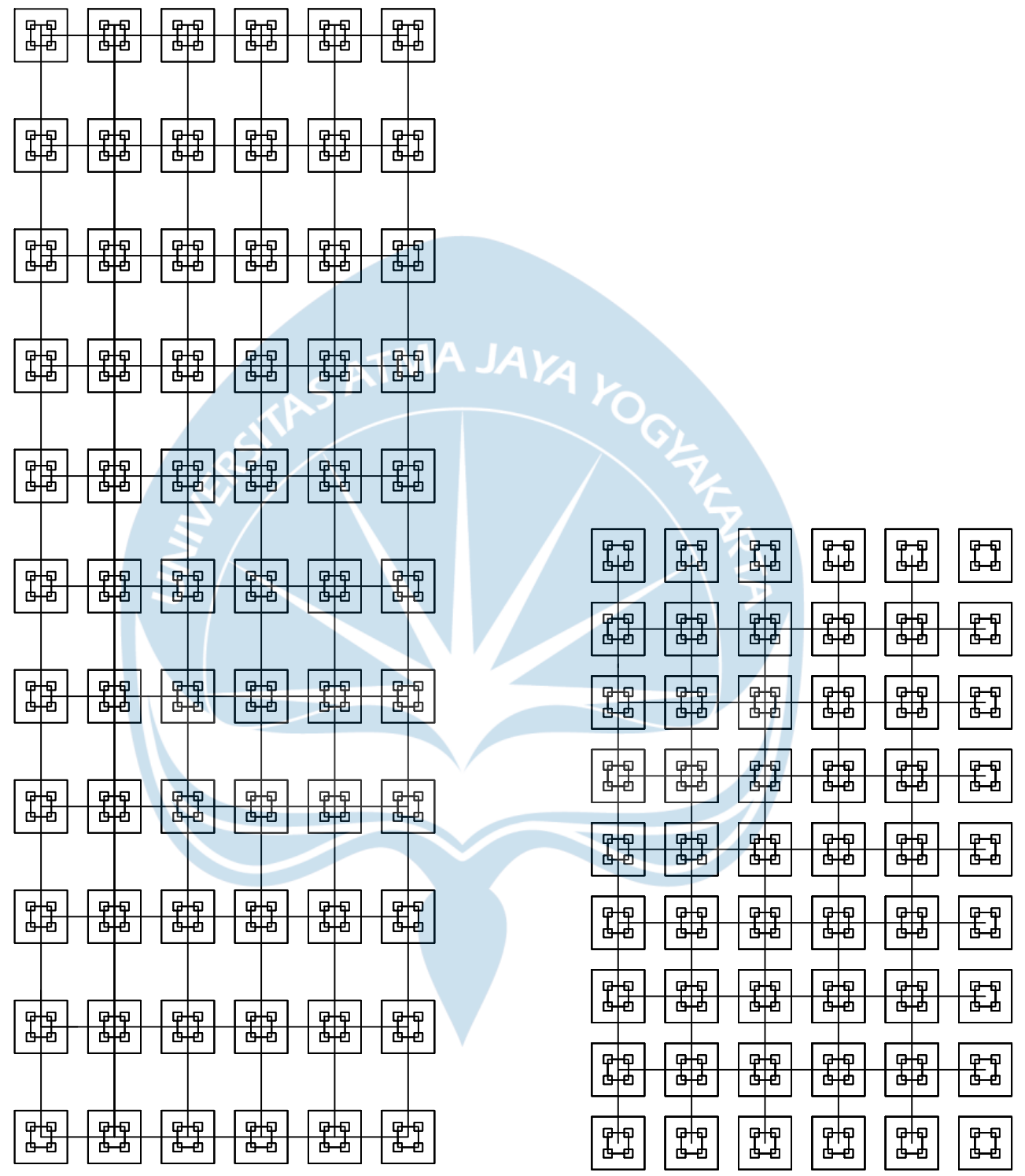

TWO WAYS SLAB
 SCALE 1 : 3000

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	TWO WAYS SLAB		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




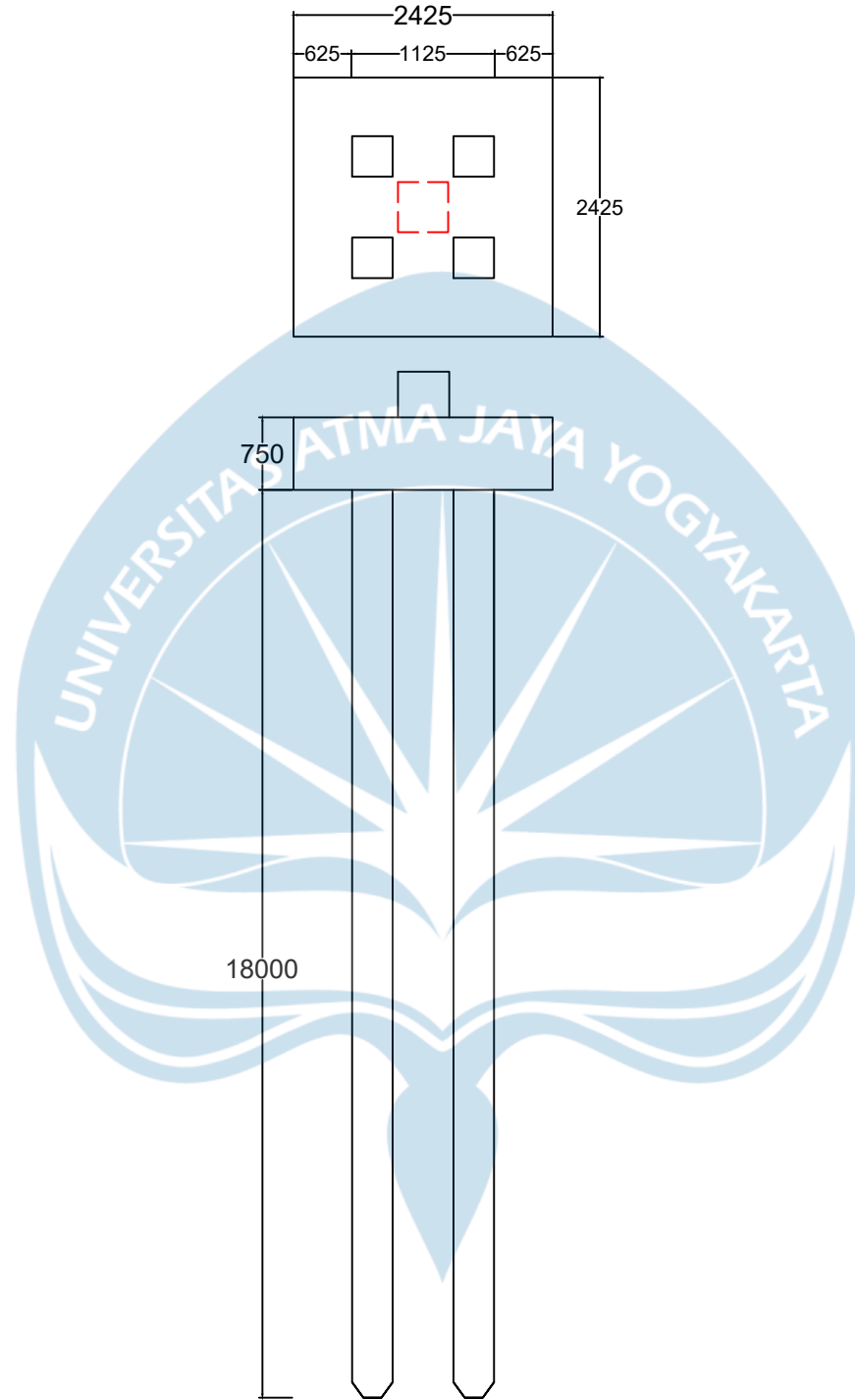

SCALE SLAB
 SCALE 1 : 3000

	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
 Atma Jaya Yogyakarta University	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	ONE WAY SLAB		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




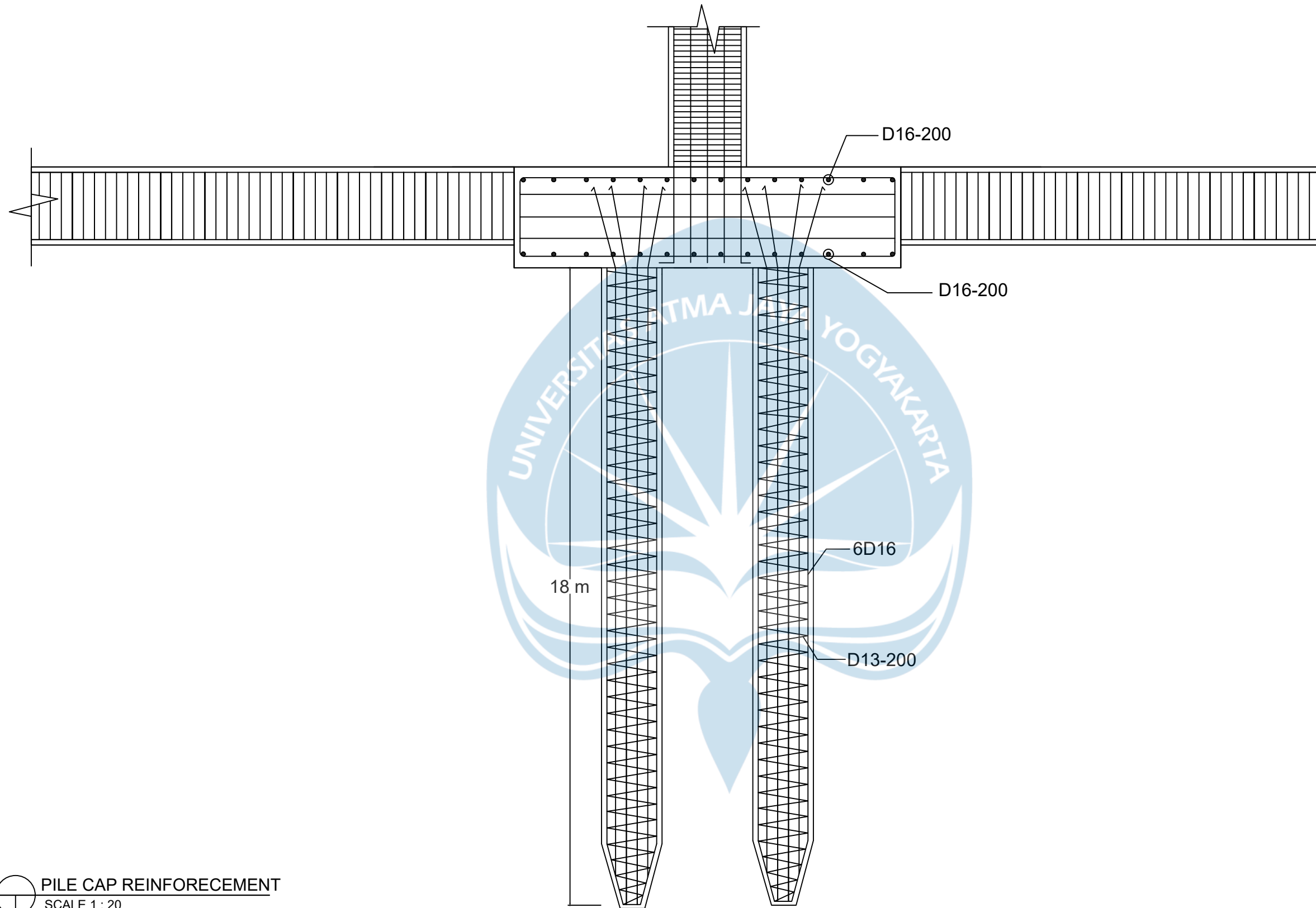
FOUNDATION PLAN
SCALE 1 : 250

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	FOUNDATION PLAN		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




DETAIL FONDATION
SCALE 1 : 20

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	DETAIL FONDATION		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			




PILE CAP REINFORCEMENT
 SCALE 1 : 20

 Atma Jaya Yogyakarta University	Final Project	Project Title	Project Location	Student Identity	Drawing Title	Note	
	PERIOD : EVEN II ACADEMIC YEAR 2022/2023	MUNTILAN INDONESIAN CHRISTIAN CHURCH	FX. SUHAJI STREET, MUNTILAN, MAGELANG, CENTER JAVA	Adithya Aladar (191317834) Nafarani Bongga (191317834)	PILE CAP REINFORCEMENT		Page
	CIVIL ENGINEERING DEPARTMENT FACULTY OF ENGINEERING			Final Project Adviser Identity Johan Ardianto, S.T., M.Eng.			