

CHAPTER V

CONCLUSION

5.1 Conclusion

From Final Project Infrastructure Design, starts from upper until lower structure, continued with cost and time management, it can be concluded several points as follow.

1. Library is built under medium soil type with KDS IV in Yogyakarta.
2. Library is designed with 4 type of beams, B1 (350X600), B2(400X800), B3(350X700) and B4(250X500), and 2 type of columns, K1 (600X600) and K2(500X500).
3. Roof steel is designed with 2L 90x90x9x9 as truss and C 150X65X20X2.5 as purlin profile.
4. Slab is designed under two types, one-way slab and two-way slab, with thickness of 125 mm.
5. Foundation is designed with bored-pile foundations, with 6 configurations, starts from single pile until six-group of piles, with dimension of pile cap as 1.8x1.8 m for single pile, 1.8x2.7 m for two-group of piles, 2.7x2.7 for three and four group of piles, and 2.8x4 m for five and six group of piles.
6. Cost estimation and time planning for library construction is planned for 425 days. From cost planning calculation, it results Rp 23,228,730,389. For a whole project. Microsoft Project calculates the cost estimation for whole project of Rp 21,247,574,399. Taking 10% of tax (PPN), it resulting Rp23,372,331,839. It should be considered that the calculation is excluding the Mechanical, Electrical, and Plumbing (MEP) consideration.

5.2 Suggestion

Suggestion for the design of Final Project Infrastructure Design is stated as follow.

1. Result of the structural design can be compared with the result from MIDAS Gen successors, MIDAS DESIGN, so that the efficiency of design can be observed.
2. Preliminary design can be compared based on load works on tributary area so that performance of the design still can be satisfied with more economical.
3. Pushover analysis can be conducted to prove the value of R , Ω_0 , and C_d .
4. CPT can be conducted in deeper soil level so that it can be compared with SPT result, especially in deep foundation analysis.
5. Architectural design can be completed with MEP and clear design of wall finishing, therefore cost and time management can be done completely.
6. Efficiency of cost and time management can be done to observe the efficiencies the result of design.
7. Feasibility study can be suggested to know whether the cost is already feasible during real construction.

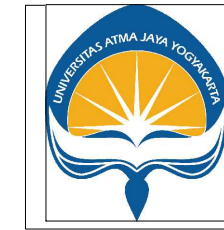
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ATTACHMENT



Universitas Atma Jaya Yogyakarta

International Civil Engineering Program
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Final Project Infrastructure 1

PERIOD : ODD

ACADEMIC YEAR 2022/2023

Project Title

Perpustakaan dan Co-working Space di
Yogyakarta dengan Pendekatan
Arsitektur Hybrid

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

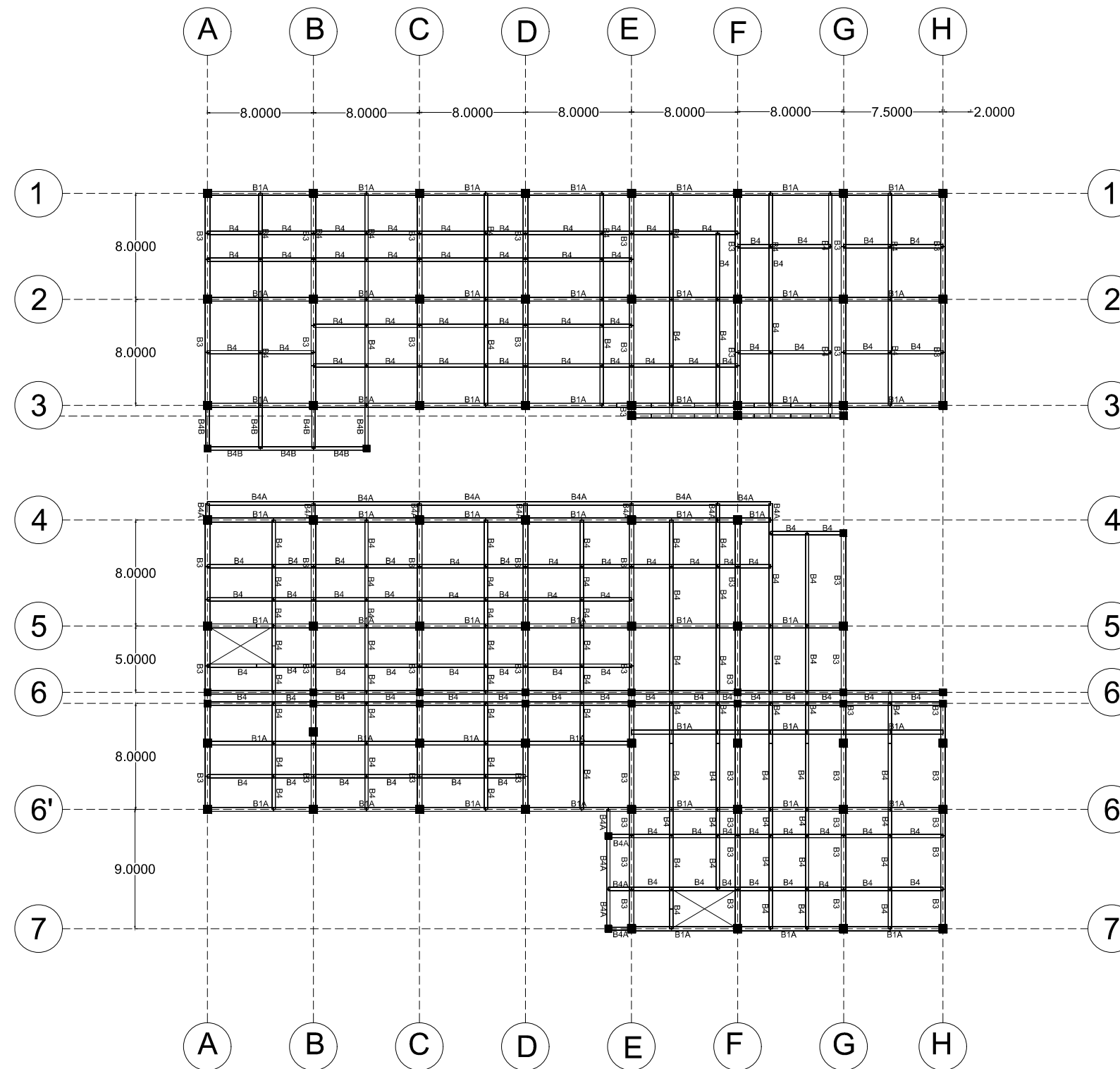
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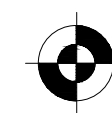
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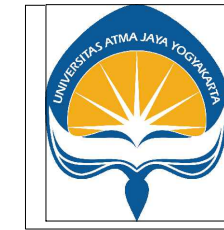
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 **Beam Plan (1st Floor)**



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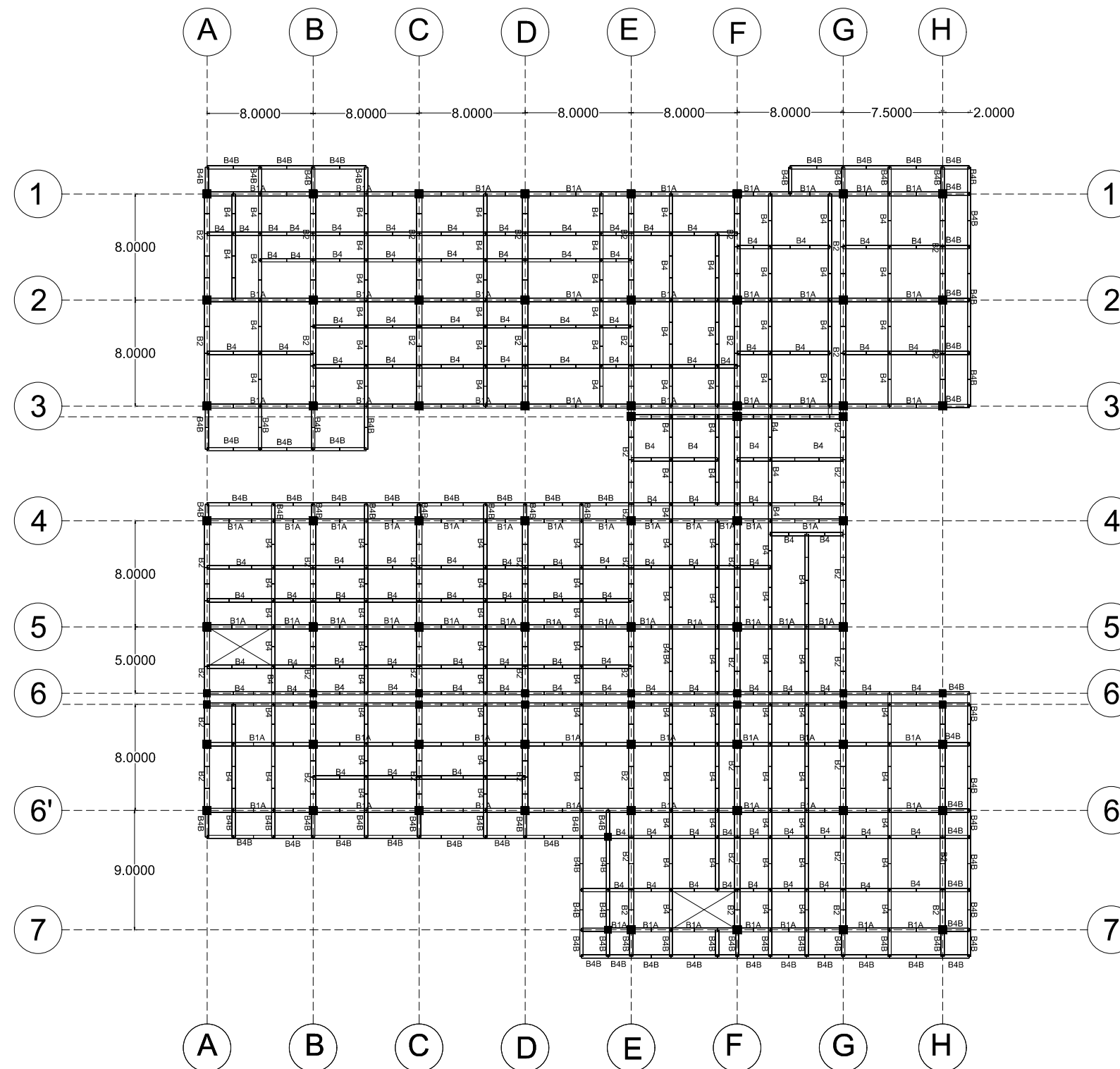
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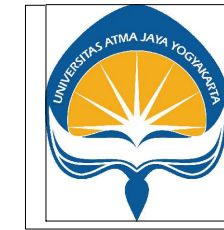
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 **Beam Plan (2nd Floor)**



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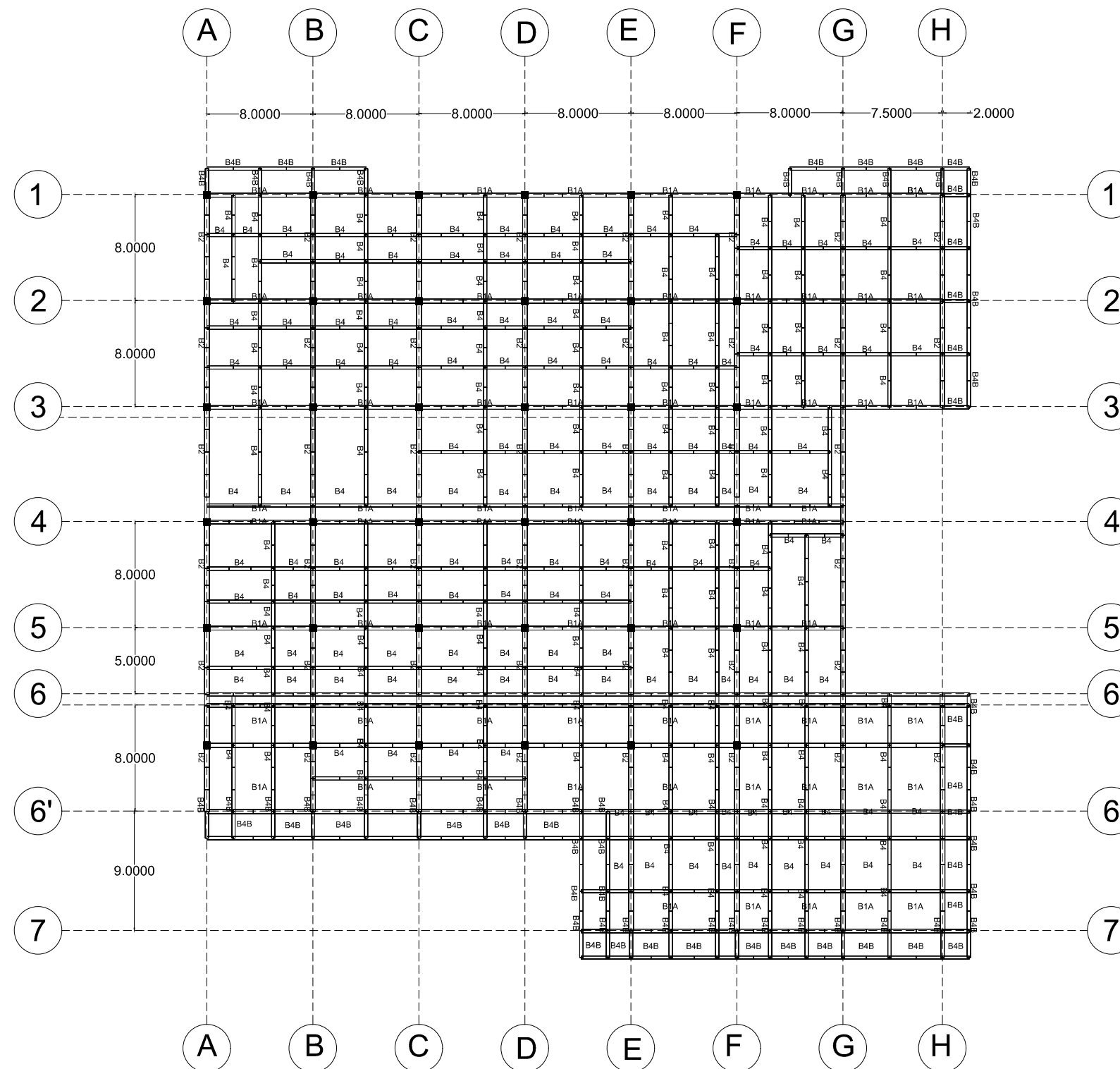
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 **Beam Plan (3rd Floor)**



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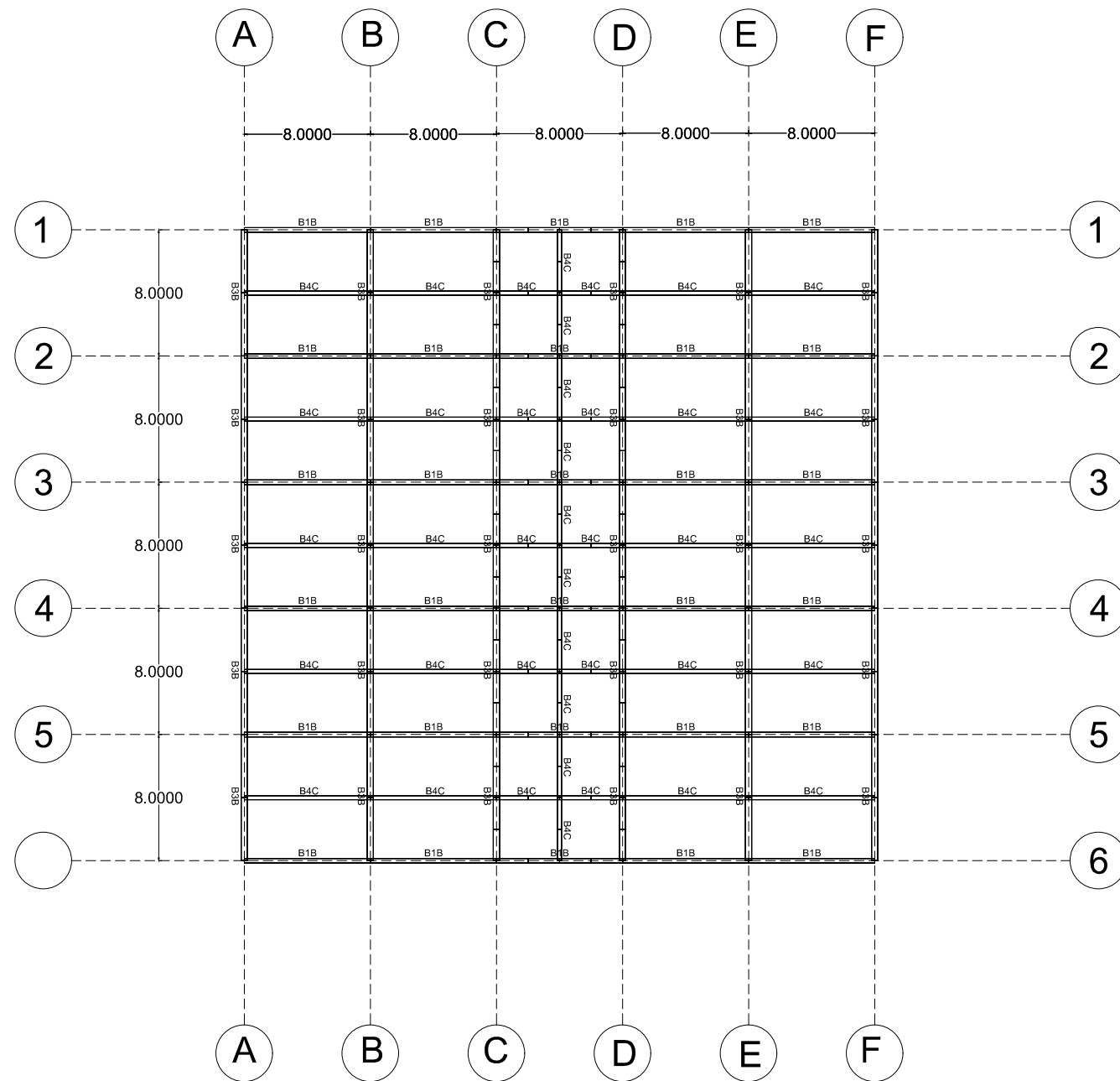
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 **Beam Plan (Rooftop)**



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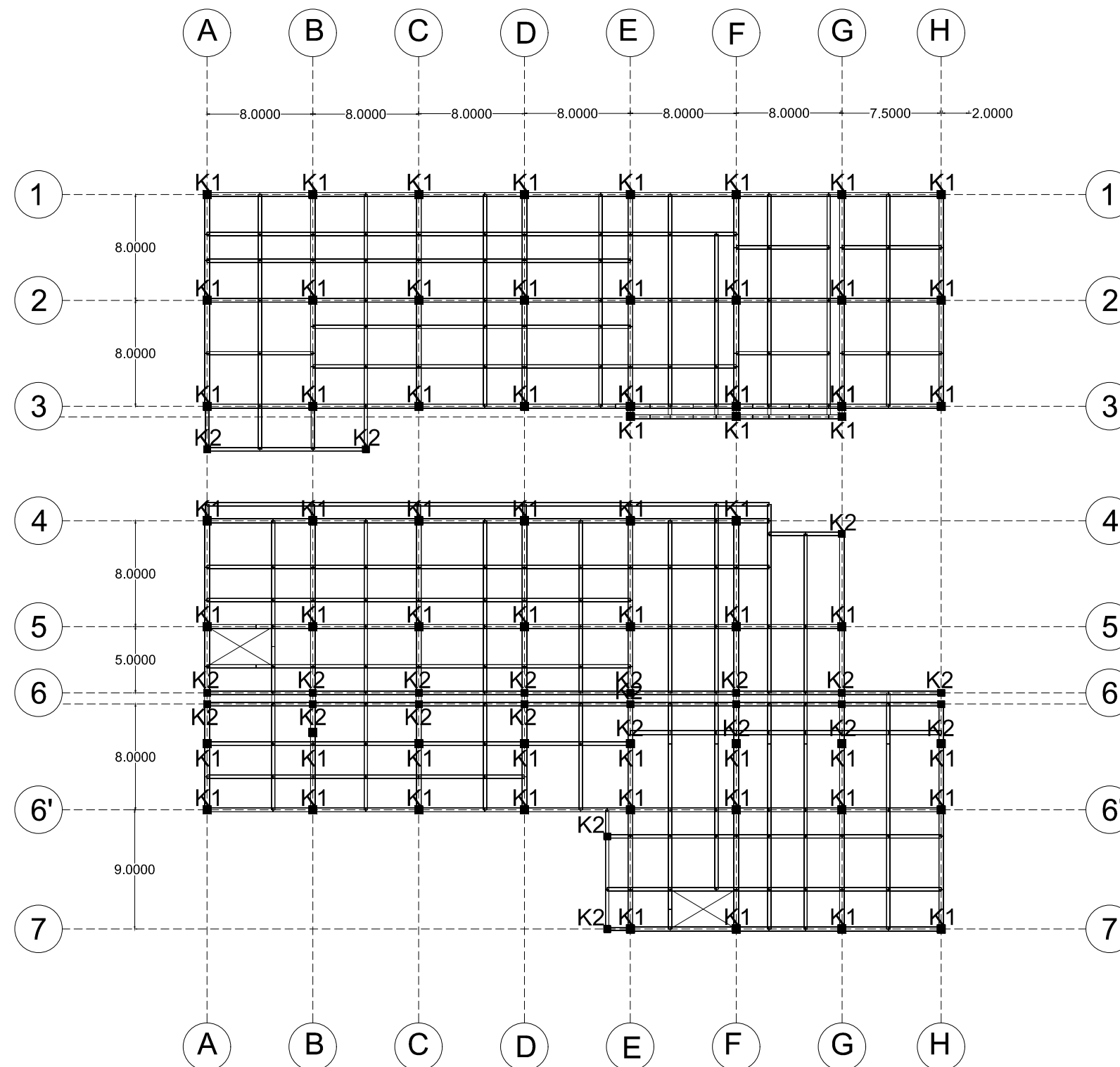
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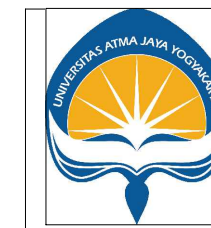
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 **Column Plan (1st Floor)**



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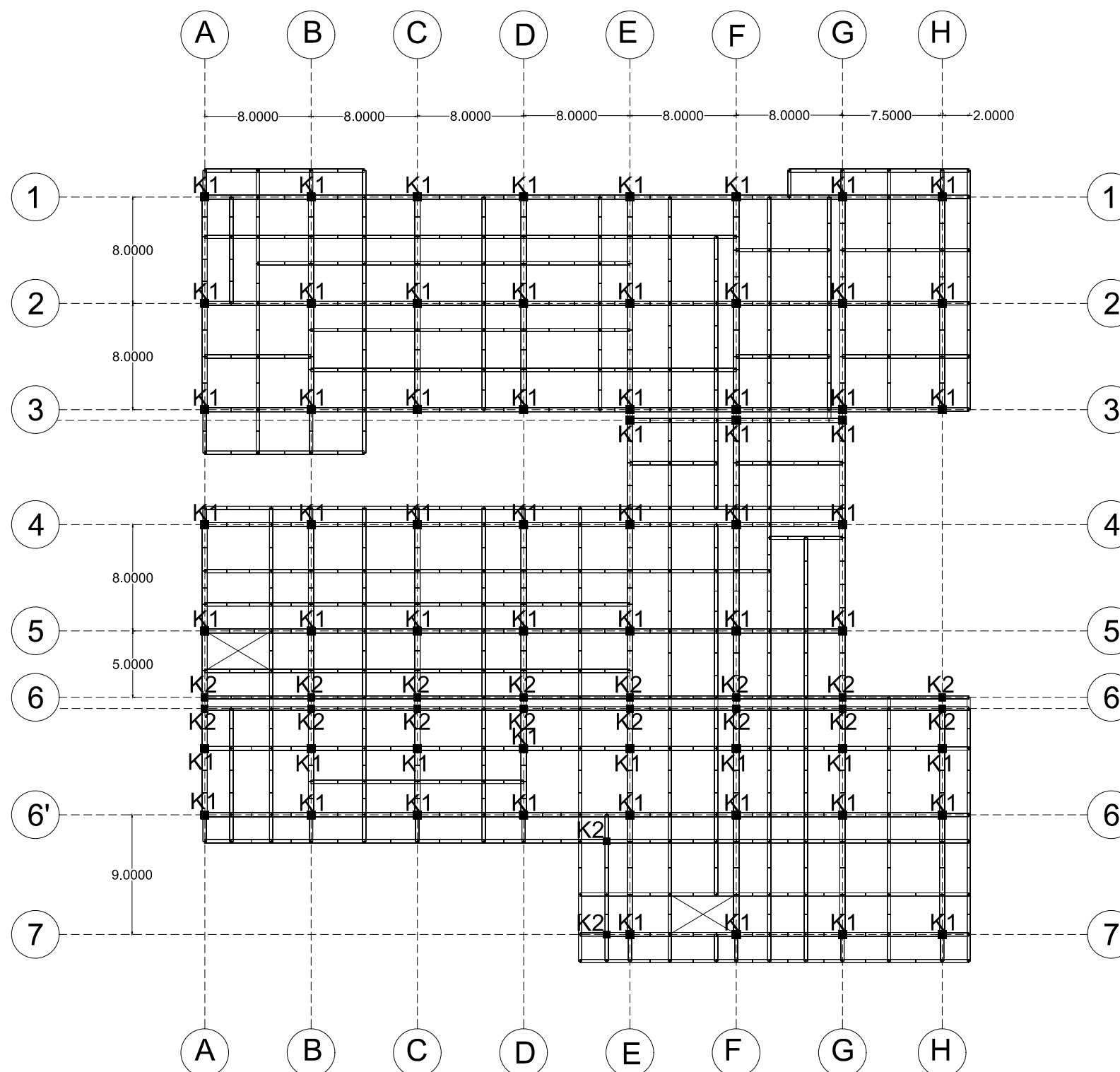
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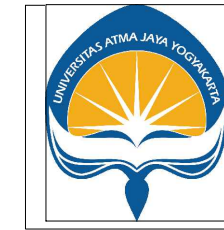
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 **Column Plan (2nd Floor)**



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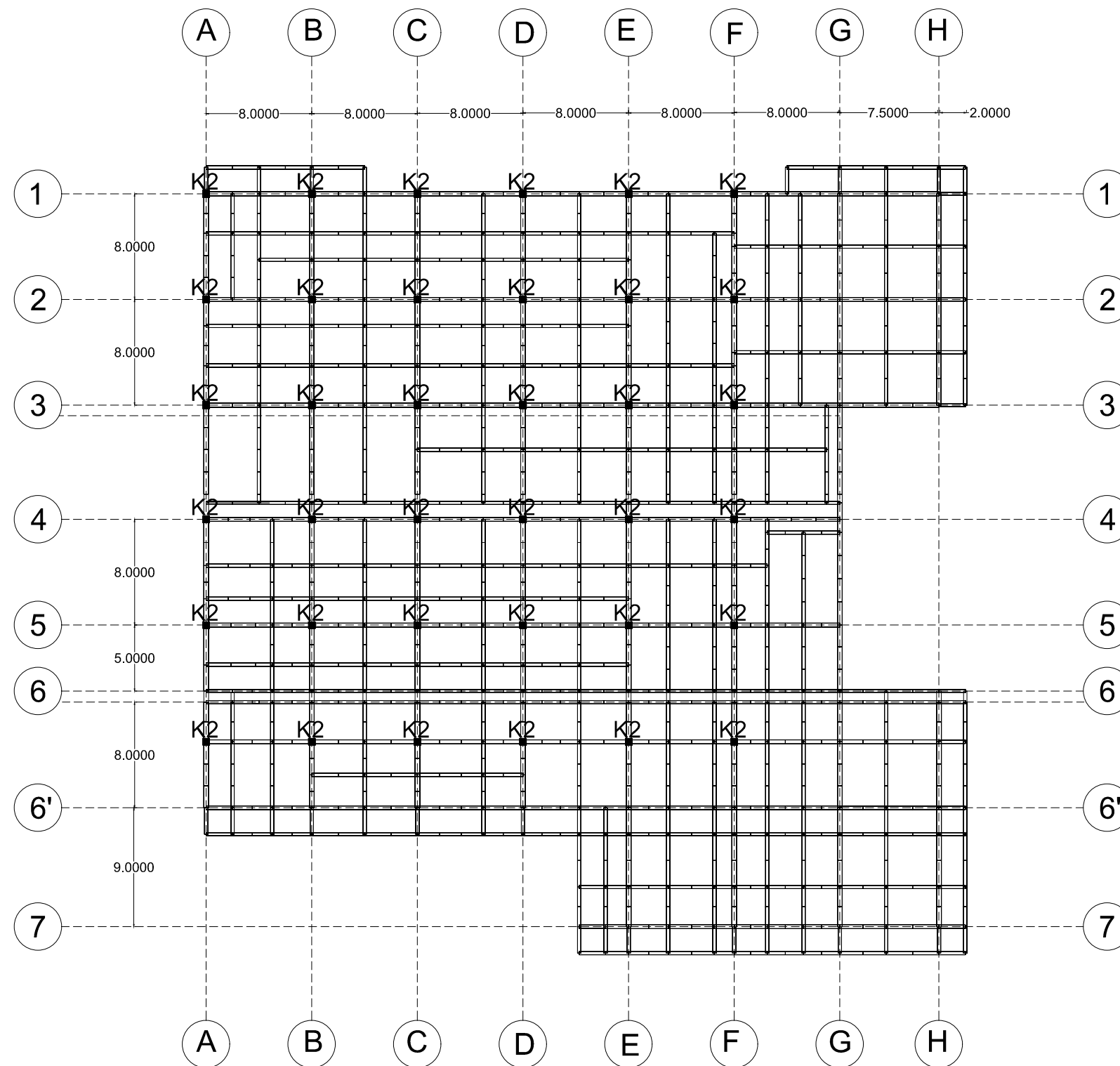
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 **Column Plan (3rd Floor)**



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Final Project Infrastructure Design 2

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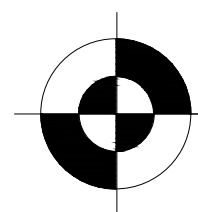
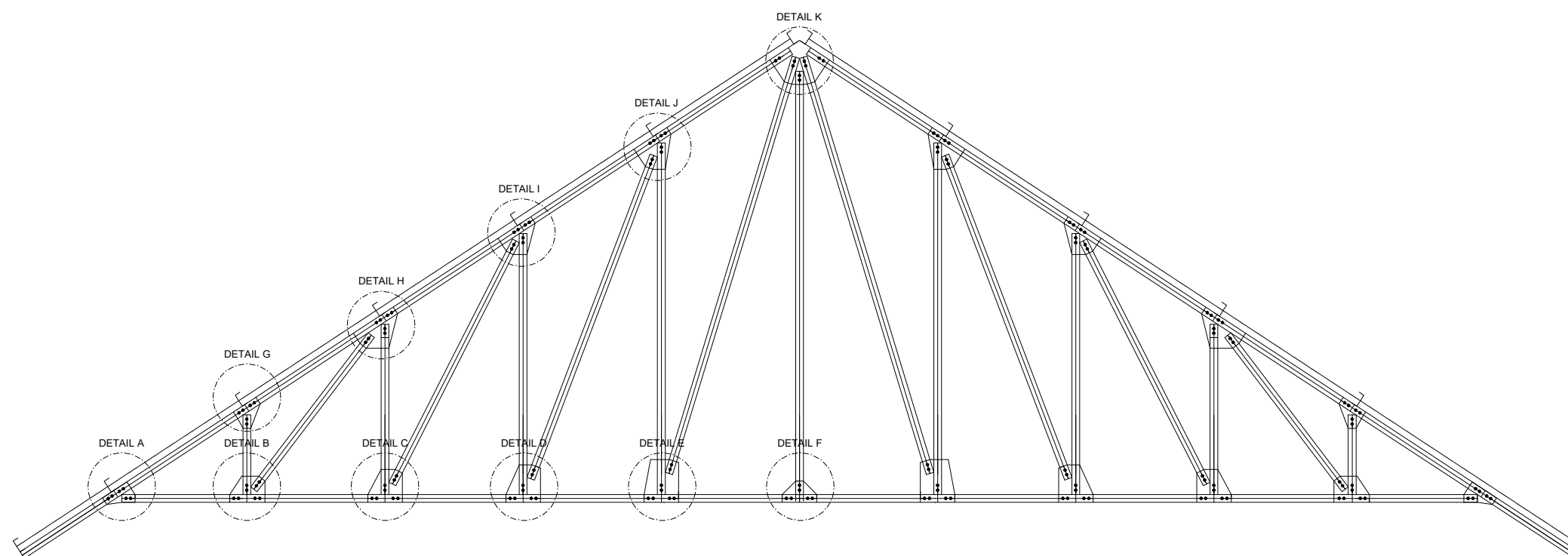
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Roof Truss



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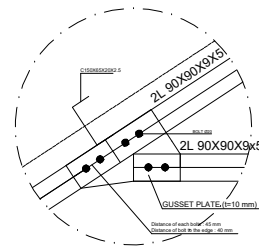
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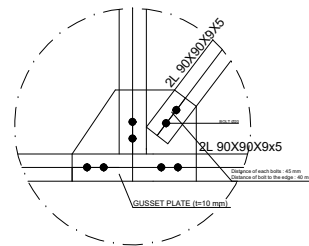
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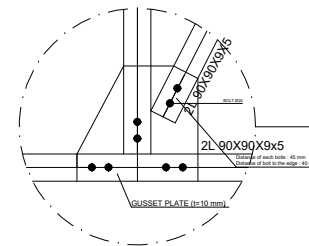
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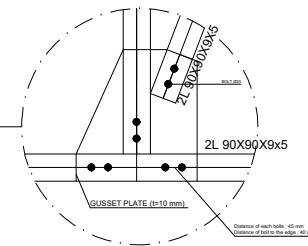
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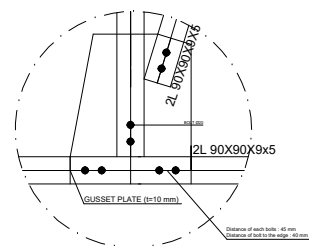
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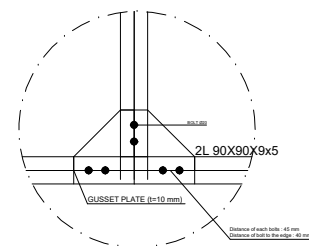
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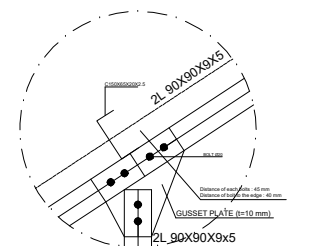
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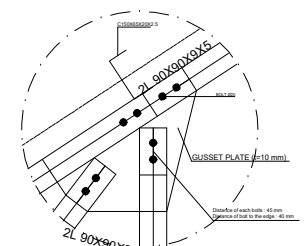
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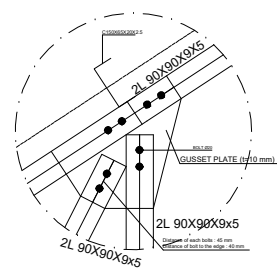
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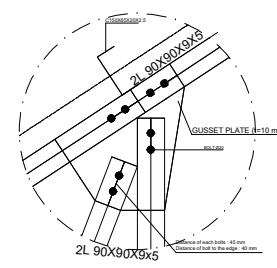
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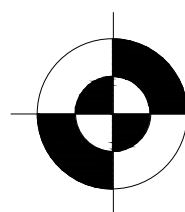
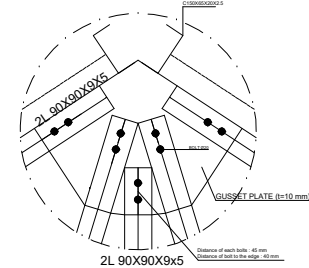
DETAIL I



DETAIL J



DETAIL K



Truss Connection Detailing



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Student Identity

GROUP 3

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Drawing Title

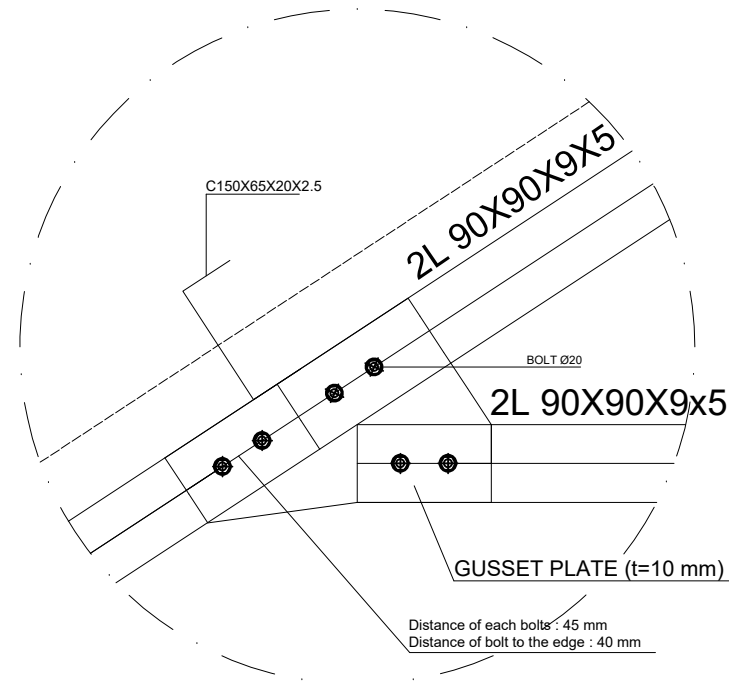
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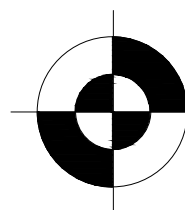
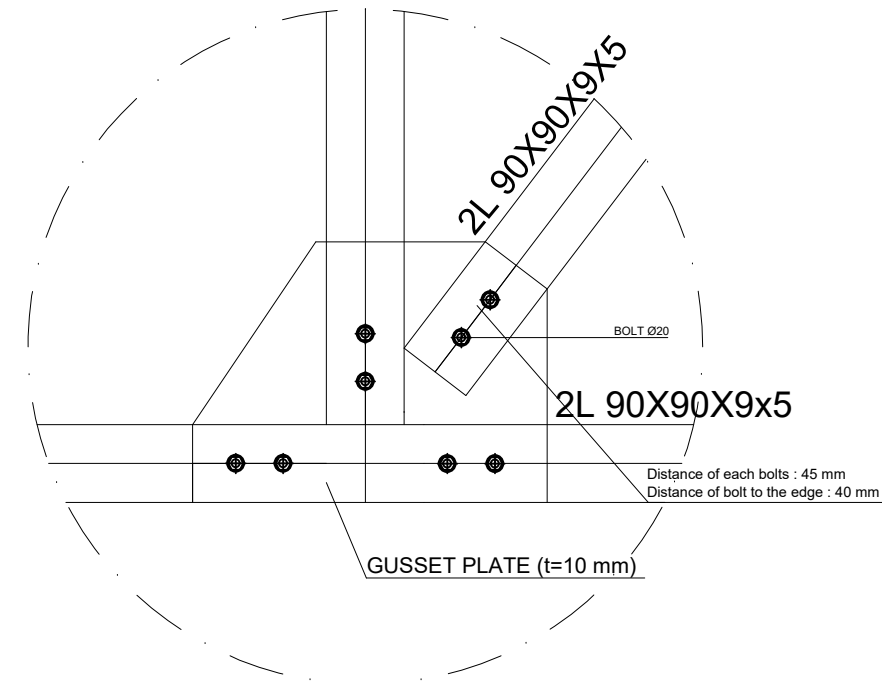
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DETAIL A



DETAIL B



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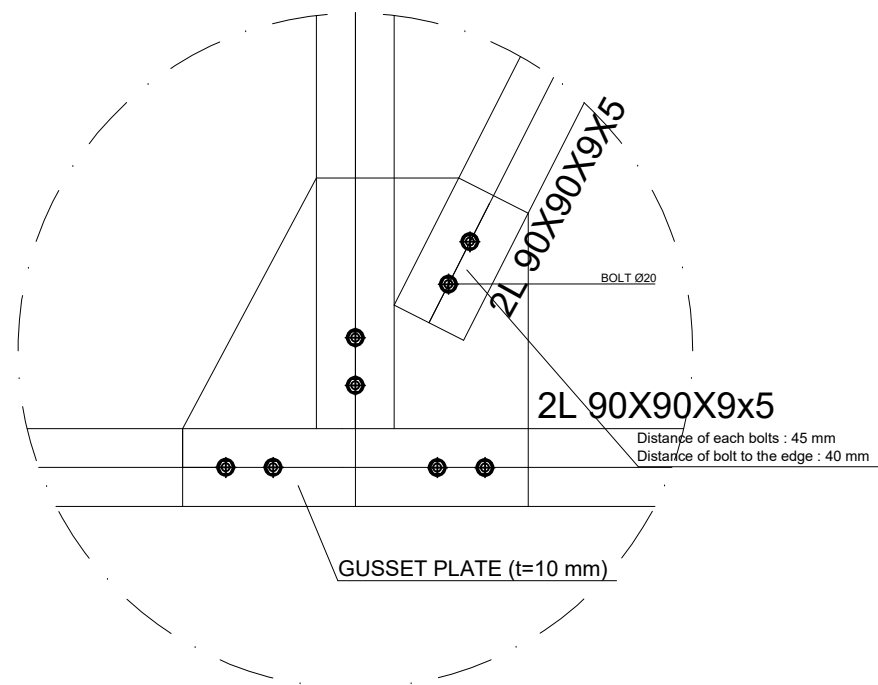
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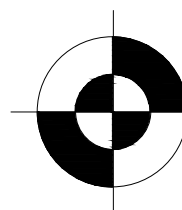
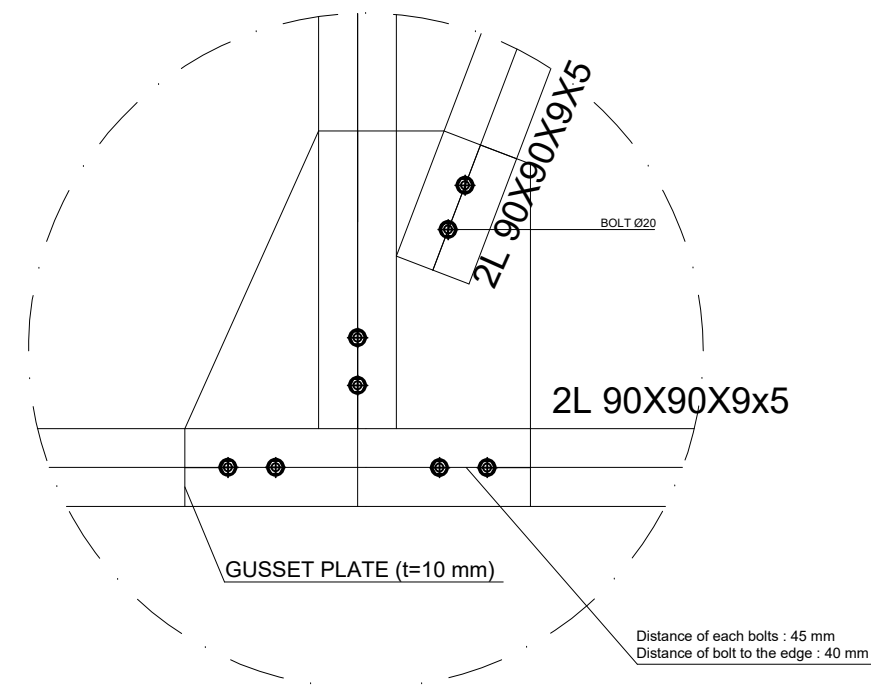
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DETAIL C



DETAIL D



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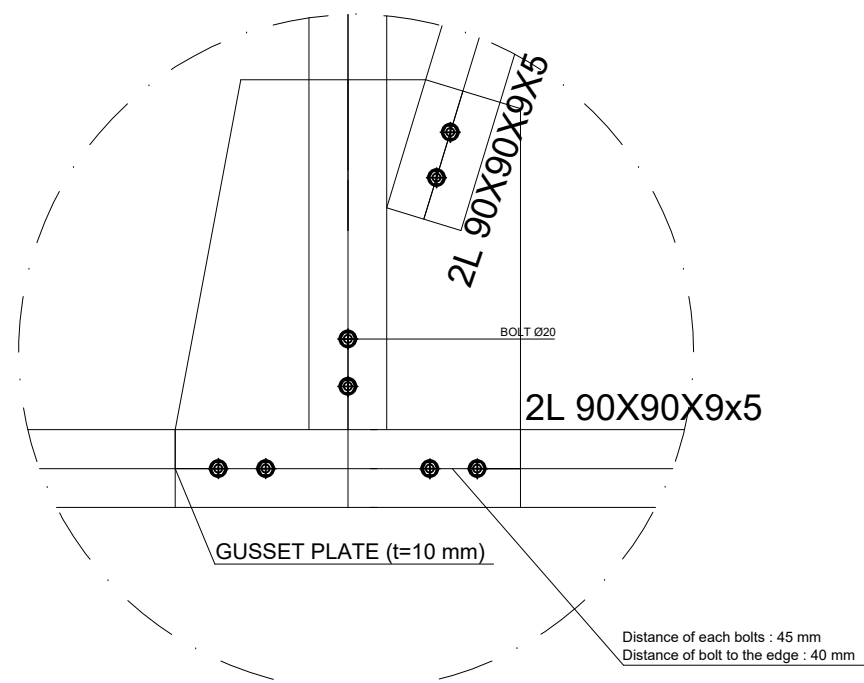
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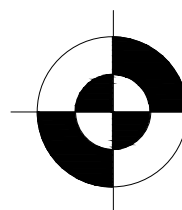
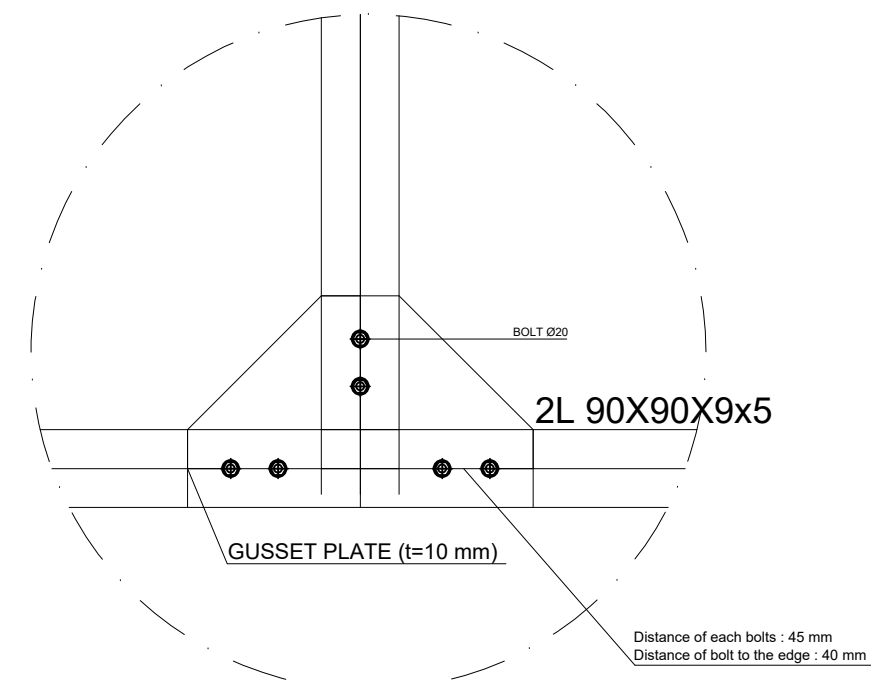
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DETAIL E



DETAIL F



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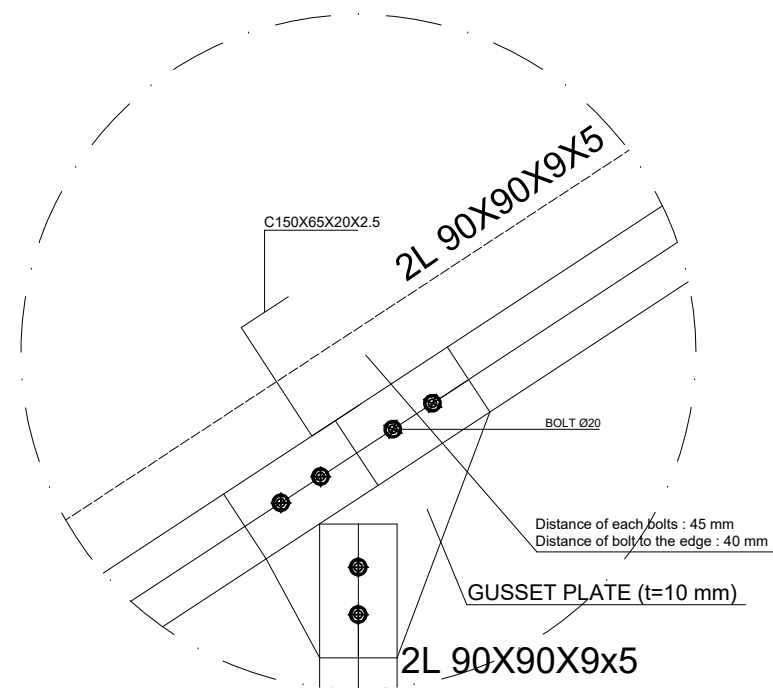
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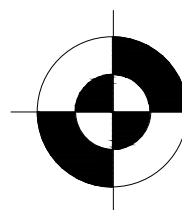
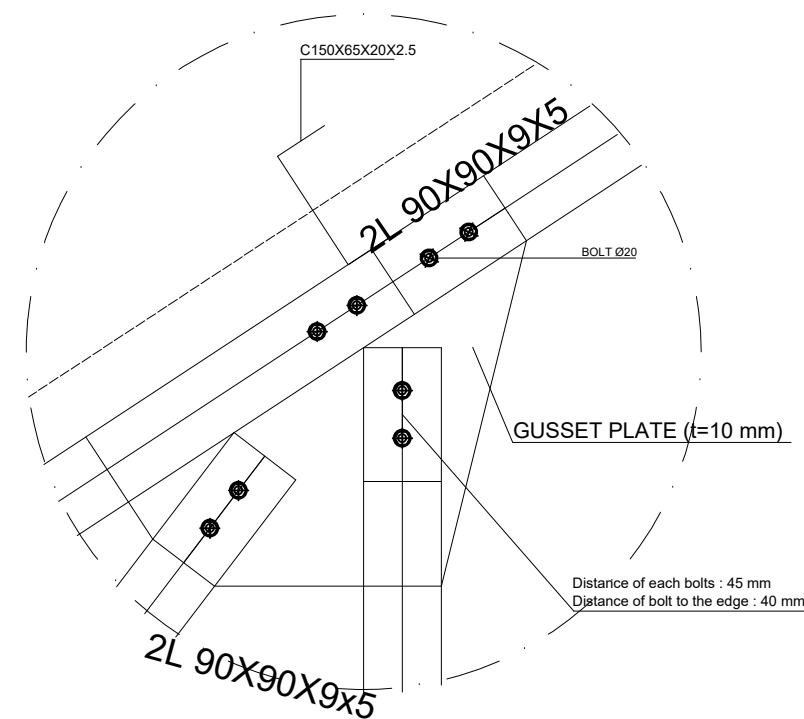
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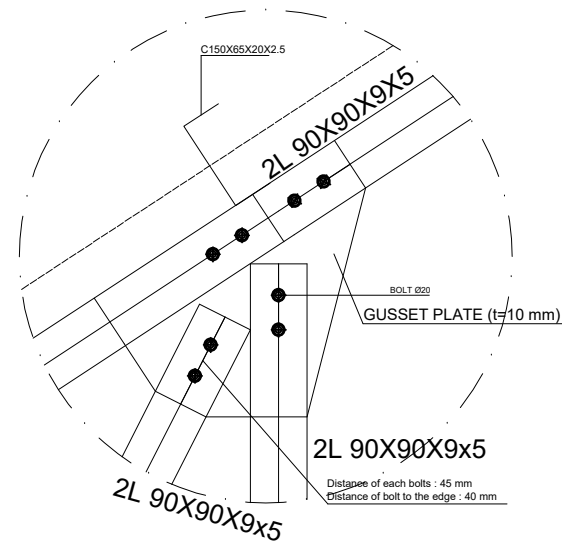


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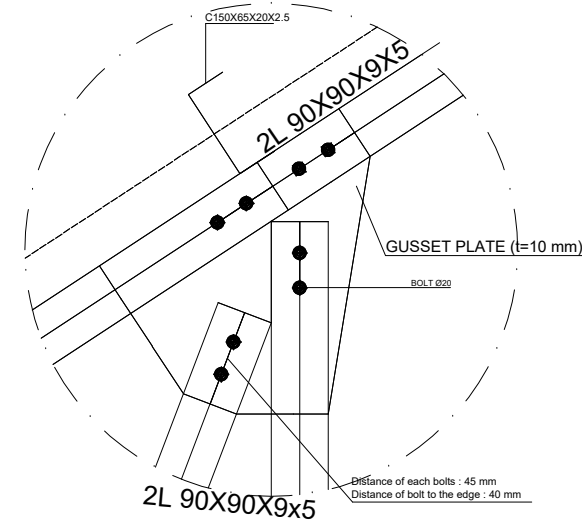


Truss Connection Detailing

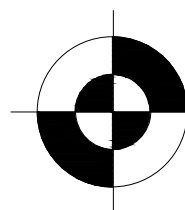
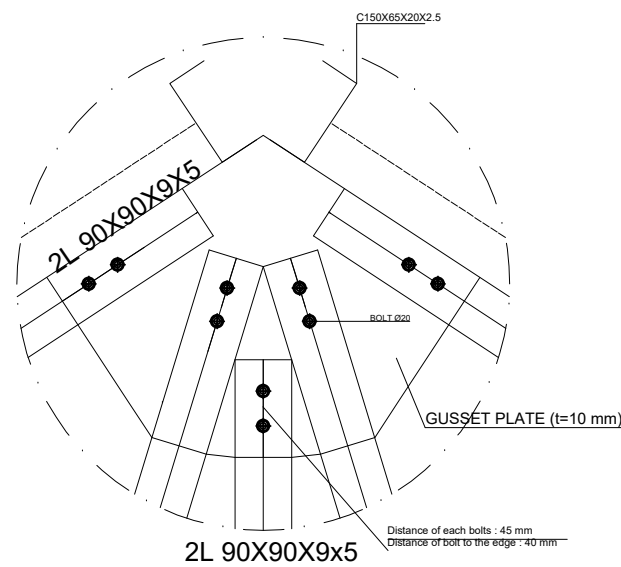
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DETAIL J



DETAIL K



Truss Connection Detailing



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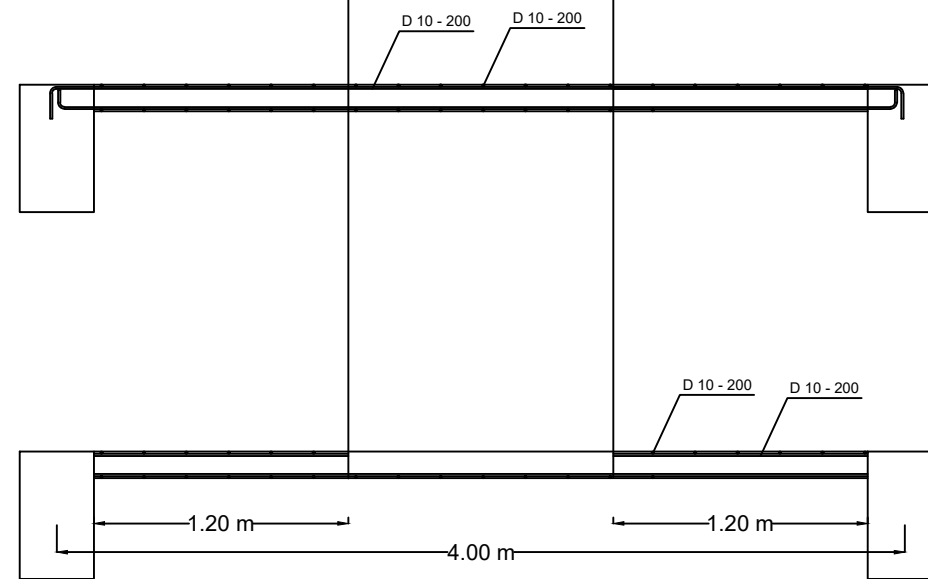
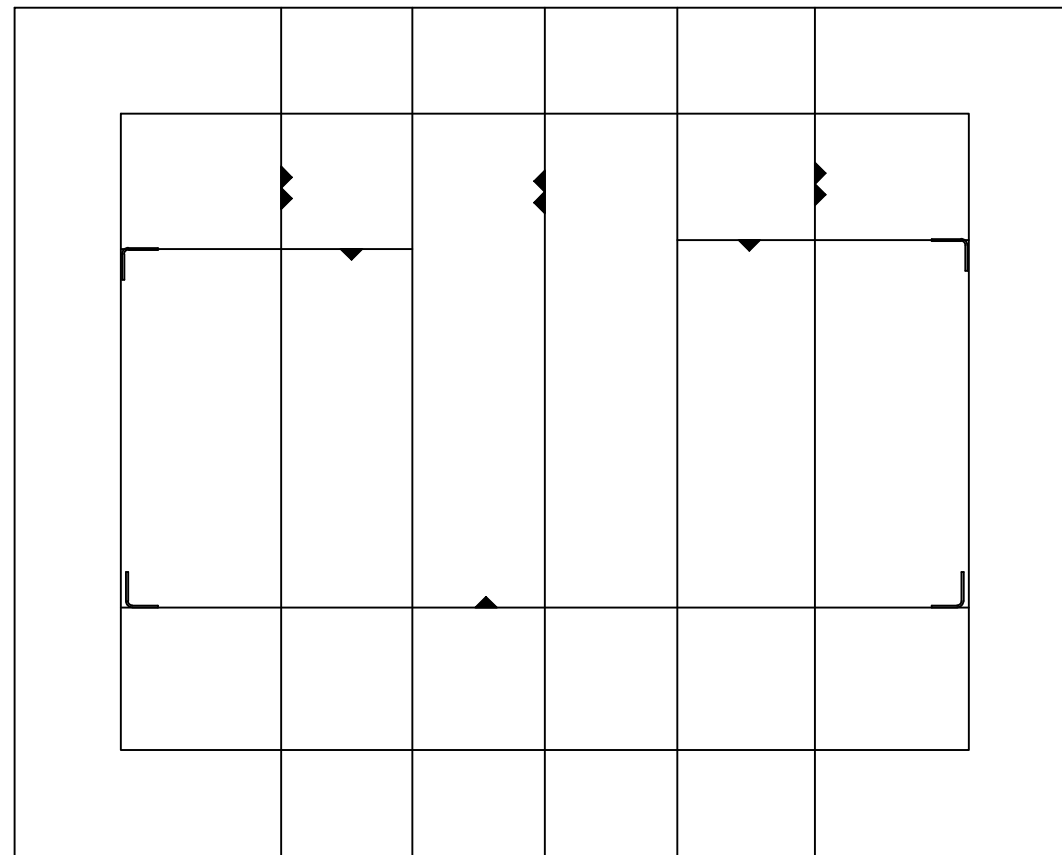
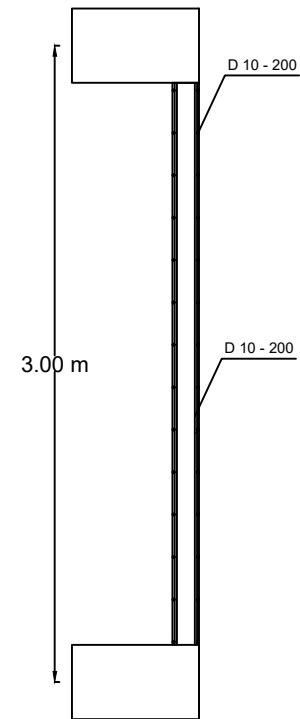
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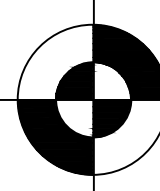
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 **One-Way Slab Detail**



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 Arsitektur Hybrid

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

Drawing Title

Scale

Notes

Drawing Dates

Drawing Codes



Universitas Atma Jaya Yogyakarta

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Final Project Infrastructure 1

PERIOD : ODD

ACADEMIC YEAR 2022/2023

Project Title

Perpustakaan dan Co-working Space di
Yogyakarta dengan Pendekatan
Arsitektur Hybrid

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

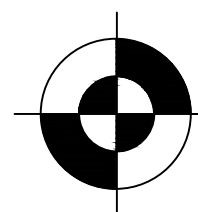
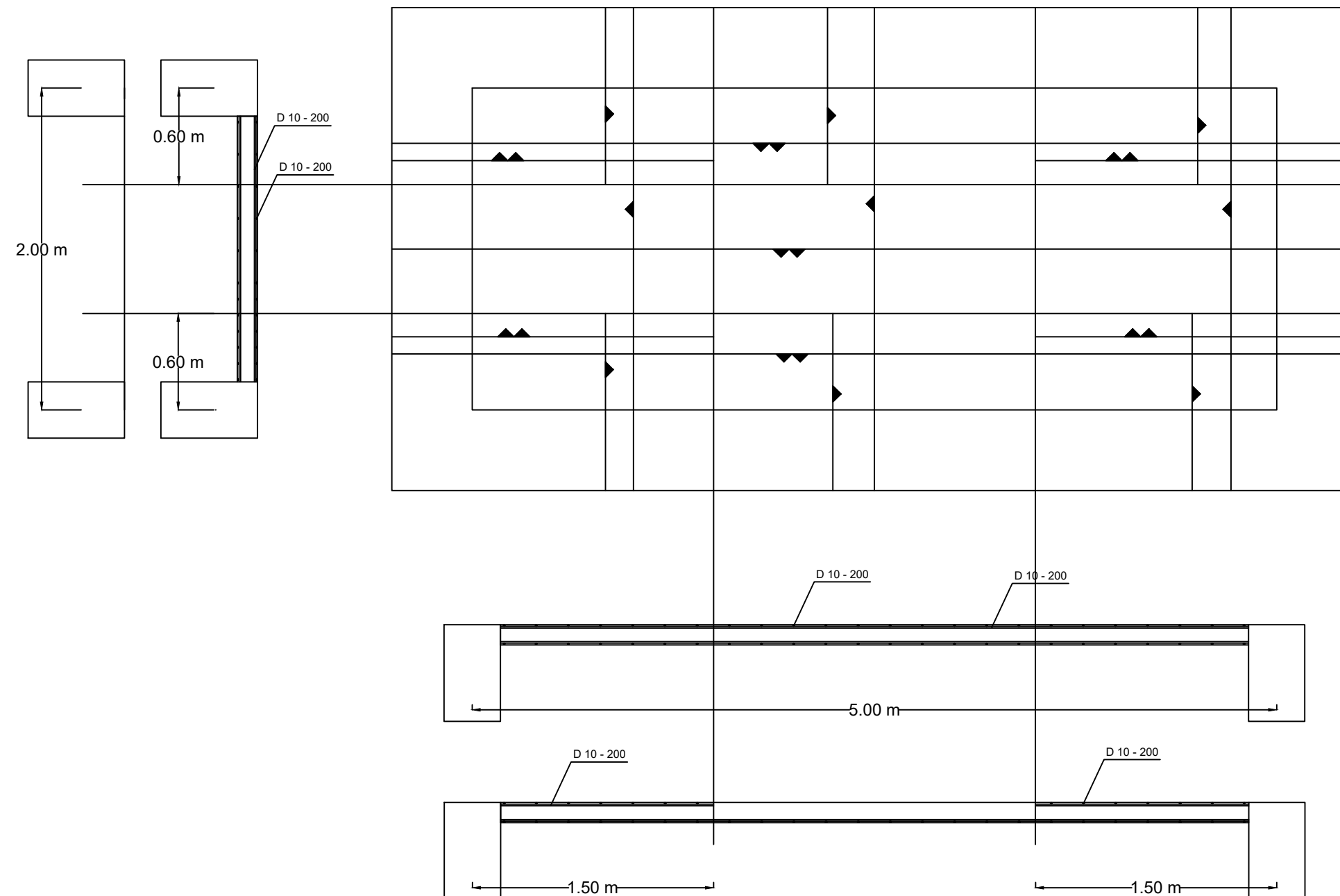
Drawing Title

Scale

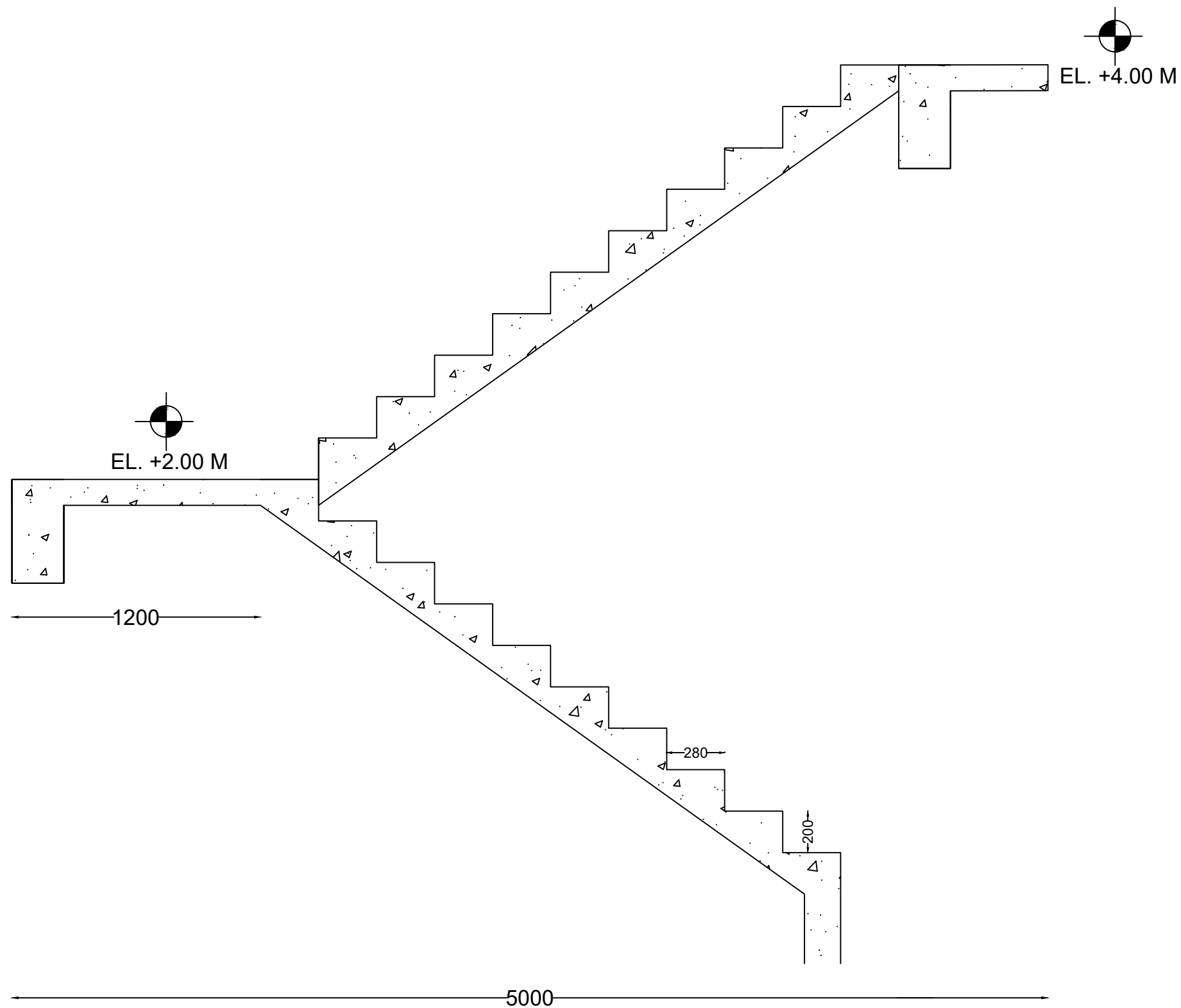
Notes

Drawing Dates

Drawing Codes



Two-Way Slab Detail



Stairs Section



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

Drawing Title

Scale

Notes

Drawing Dates

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Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

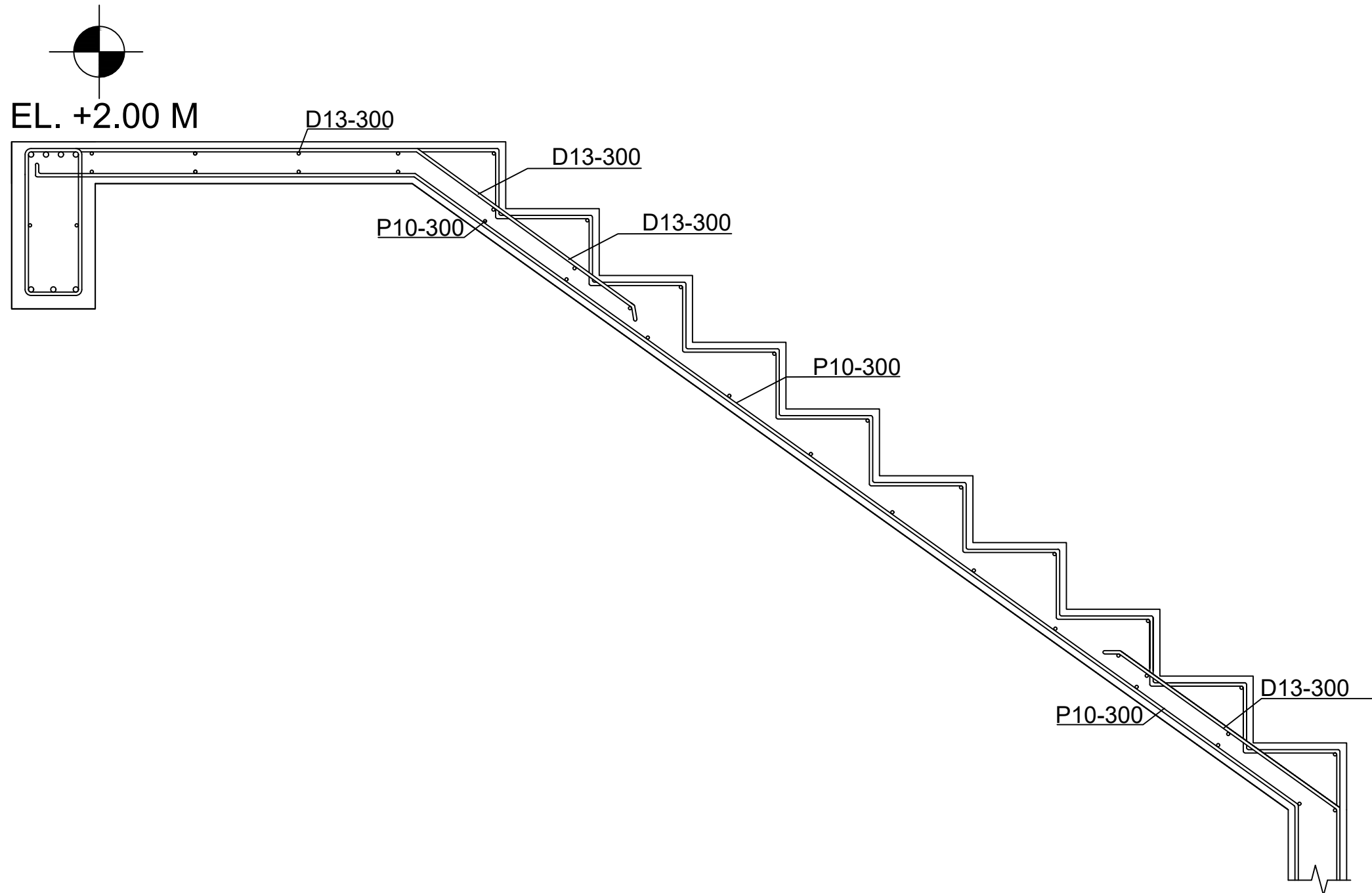
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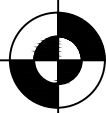
Scale

Notes

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 Stairs Reinforcement



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Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

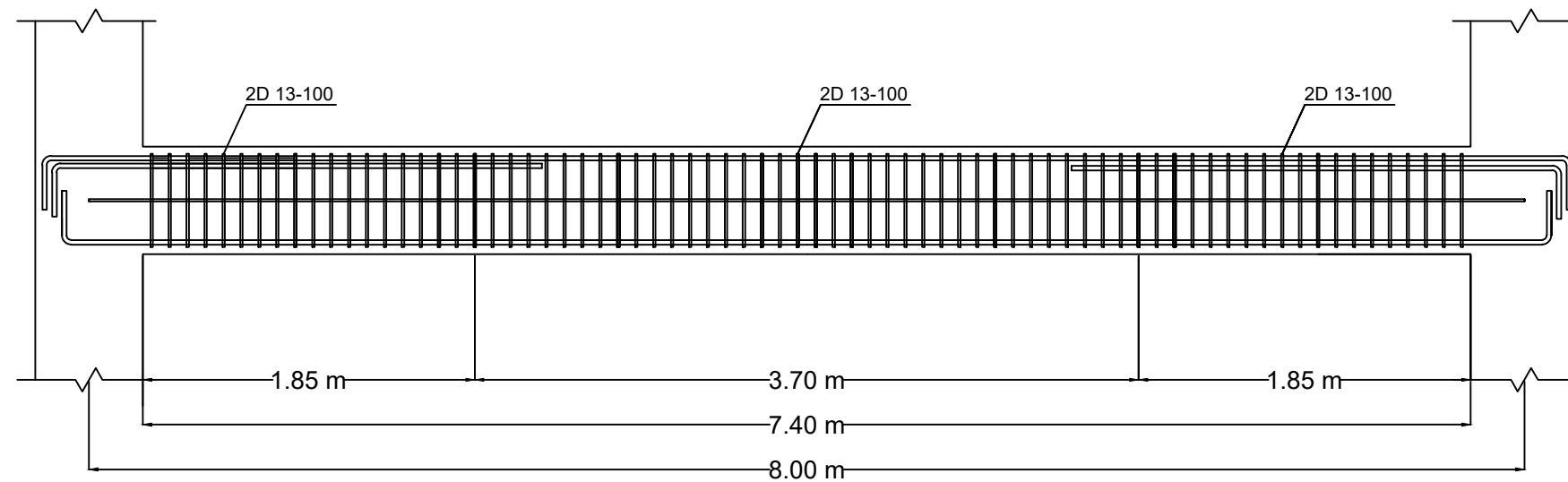
Drawing Title

Scale

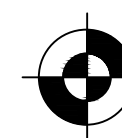
Notes

Drawing Dates

Drawing Codes



BEAM	B1 (350X600)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	7D25	3D25	7D25
LOWER	5D25	4D25	5D25
STIRRUP	2D13-100	2D13-100	2D13-100
TORSIONAL	2D13	2D13	2D13



Beam Detail (B1)



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Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

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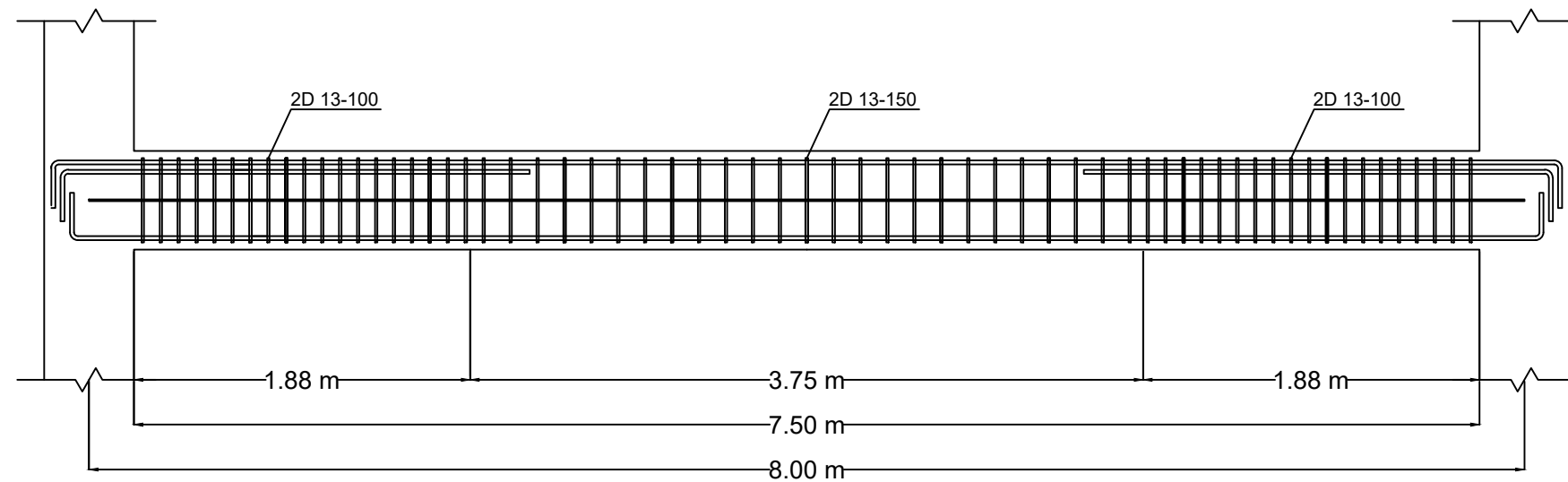
Drawing Title

Scale

Notes

Drawing Dates

Drawing Codes



BEAM	B1B (300X550)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	6D22	3D22	6D22
LOWER	3D22	4D22	3D22
STIRRUP	2D13-100	2D13-150	2D13-100
TORSIONAL	2D10	2D10	2D10

 **Beam Detail (B1B)**



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Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

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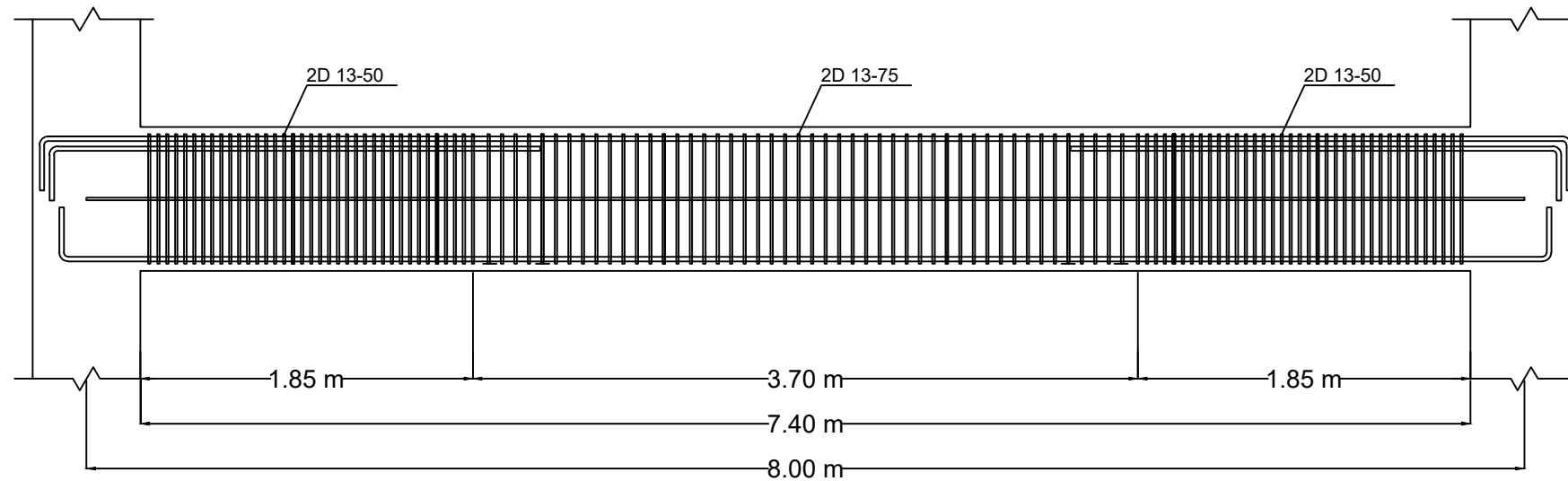
Drawing Title

Scale


Notes

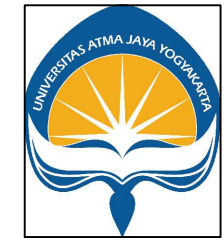
Drawing Dates

Drawing Codes



BEAM	B2 (400X800)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	7D25	3D25	7D25
LOWER	4D25	5D25	4D25
STIRRUP	2D13-150	2D13-75	2D13-150
TORSIONAL	2D13	2D13	2D13

 **Beam Detail (B2)**



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

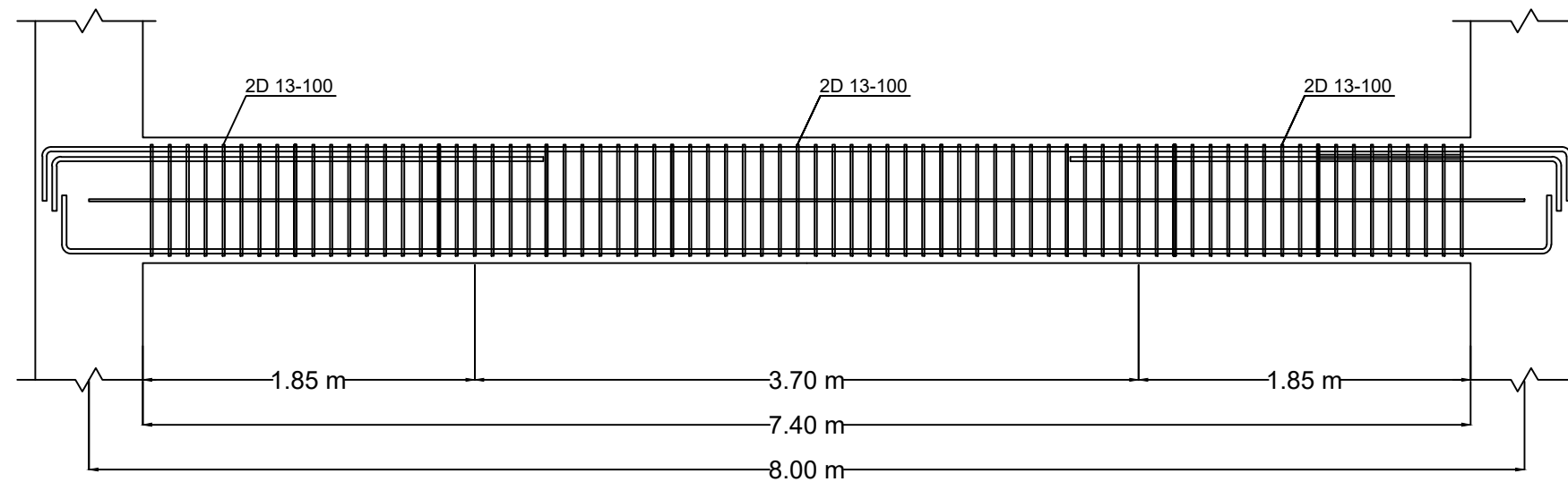
Drawing Title

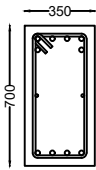
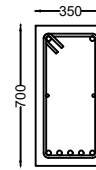
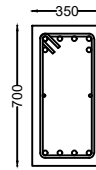
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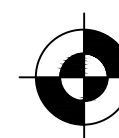
Notes

Drawing Dates

Drawing Codes



BEAM	B3 (350X700)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	6D25	2D25	6D25
LOWER	4D25	5D25	4D25
STIRRUP	2D13-100	2D13-100	2D13-100
TORSIONAL	2D13	2D13	2D13



Beam Detail (B3)



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

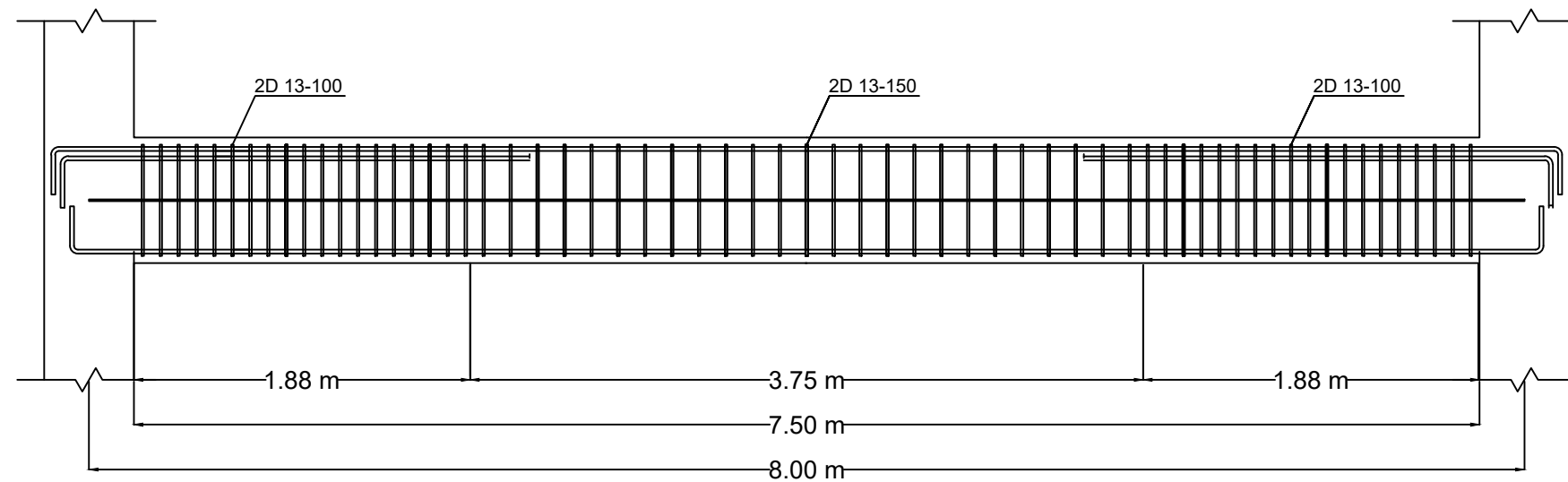
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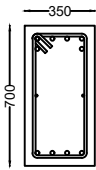
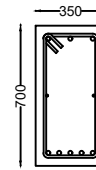
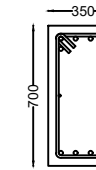
Scale

Notes

Drawing Dates

Drawing Codes



BEAM	B3B (350X700)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	6D22	3D22	6D22
LOWER	4D22	5D22	4D22
STIRRUP	2D13-100	2D13-150	2D13-100
TORSIONAL	2D10	2D10	2D10

 **Beam Detail (B3B)**



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

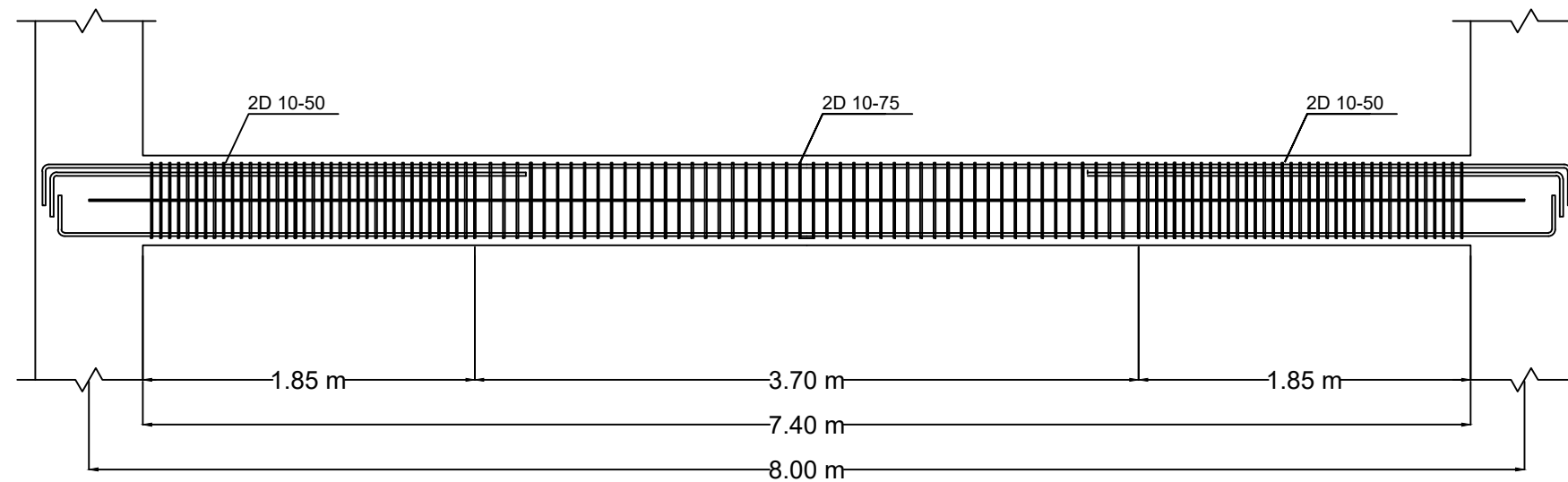
Drawing Title

Scale

Notes

Drawing Dates

Drawing Codes



BEAM	B4 (250X500)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	5D19	2D19	5D19
LOWER	3D19	3D19	3D19
STIRRUP	2D10-50	2D13-75	2D10-50
TORSIONAL	2D10	2D10	2D10

 **Beam Detail (B4)**



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Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

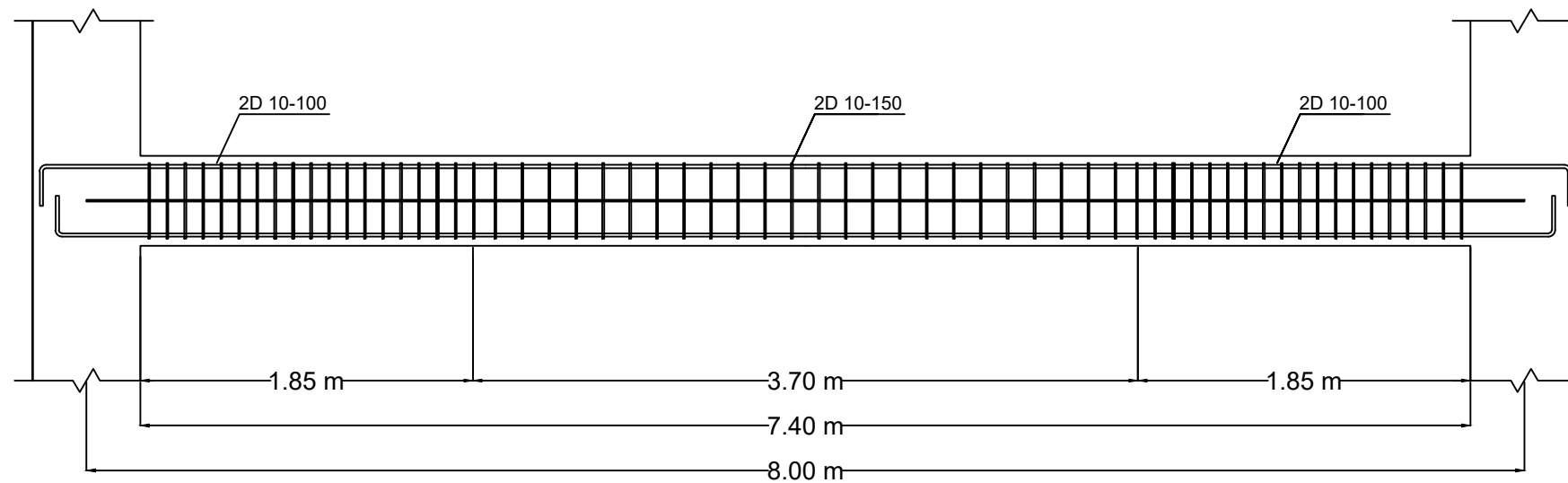
Drawing Title

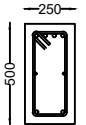
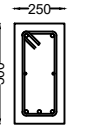
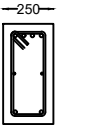
Scale

Notes

Drawing Dates

Drawing Codes



BEAM	B4B (250X500)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	4D19	2D19	4D19
LOWER	2D19	3D19	2D19
STIRRUP	2D10-100	2D10-150	2D10-100
TORSIONAL	2D10	2D10	2D10

 **Beam Detail (B4B)**



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

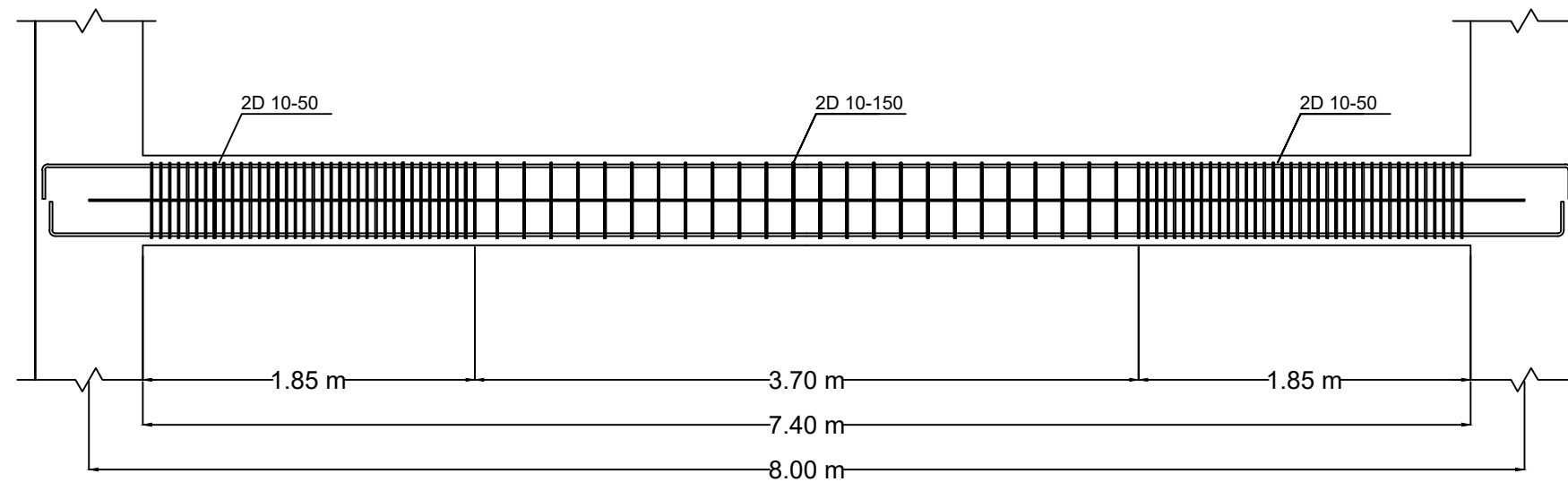
Drawing Title

Scale

Notes

Drawing Dates

Drawing Codes



BEAM	B4C (250X500)		
SECTION			
LOCATION	LEFT END	MID	RIGHT END
UPPER	4D16	2D16	4D16
LOWER	3D16	3D16	3D16
STIRRUP	2D10-50	2D10-150	2D13-50
TORSIONAL	2D10	2D10	2D10

 **Beam Detail (B4C)**



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Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

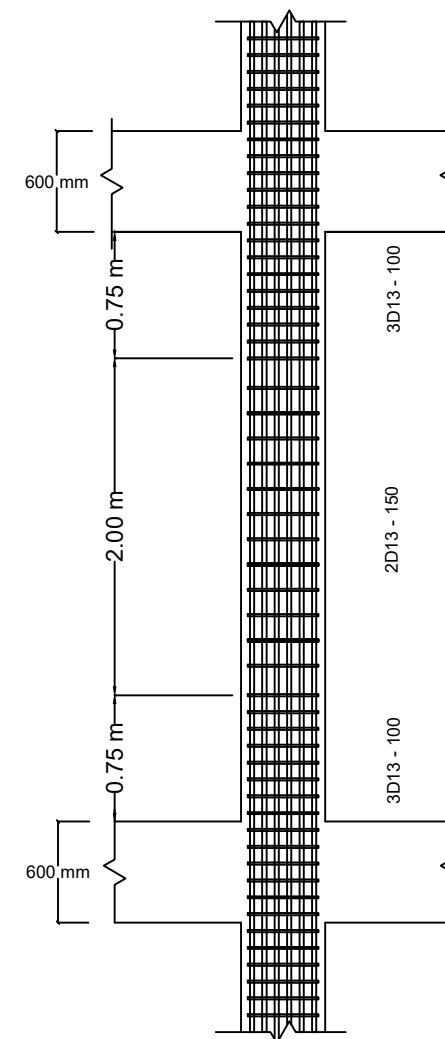
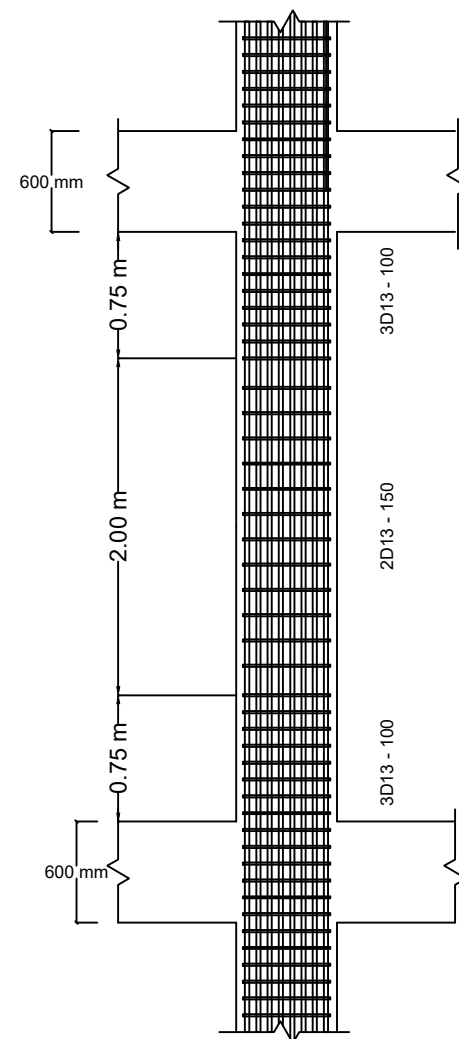
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Scale

Notes

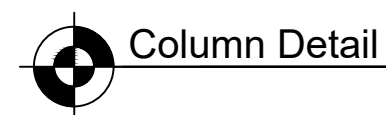
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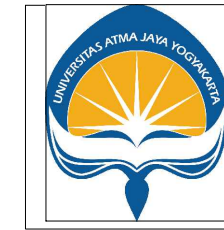
Drawing Codes



COLUMN	K600/600	
SECTION		
LOCATION	SUPPORT	MID
LONGITUDINAL REINFORCEMENT	28 D25	28D25
STIRRUP	UPPER	4D13-100
	MIDDLE	2D13-150
	LOWER	4D13-100

COLUMN	K500/500	
SECTION		
LOCATION	SUPPORT	MID
LONGITUDINAL REINFORCEMENT	20 D25	20 D25
STIRRUP	UPPER	3D13-100
	MIDDLE	2D13-150
	LOWER	3D13-100





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Project Title

Perpustakaan dan Co-working Space di
Yogyakarta dengan Pendekatan
Arsitektur Hybrid

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

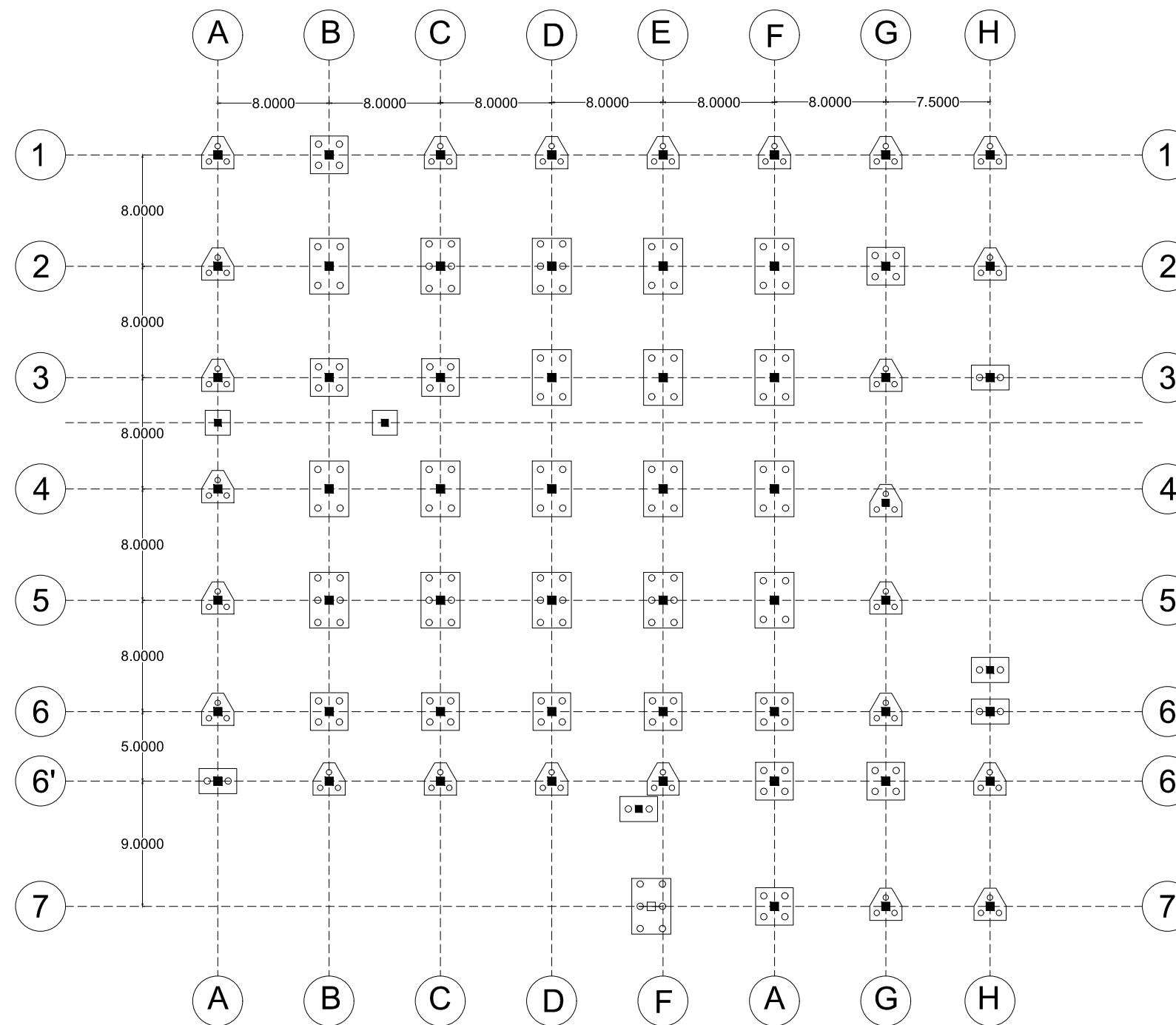
Drawing Tittle

Scale

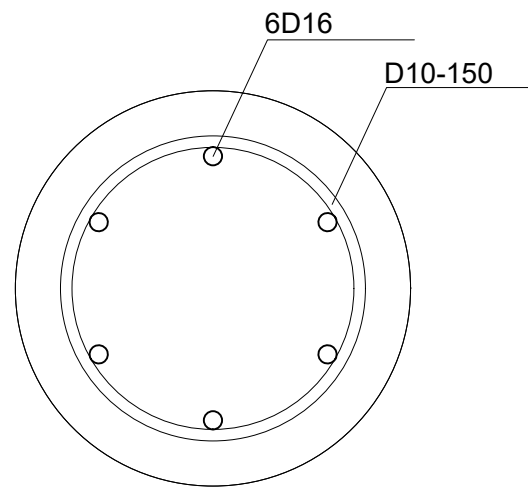
Notes

Drawing Dates

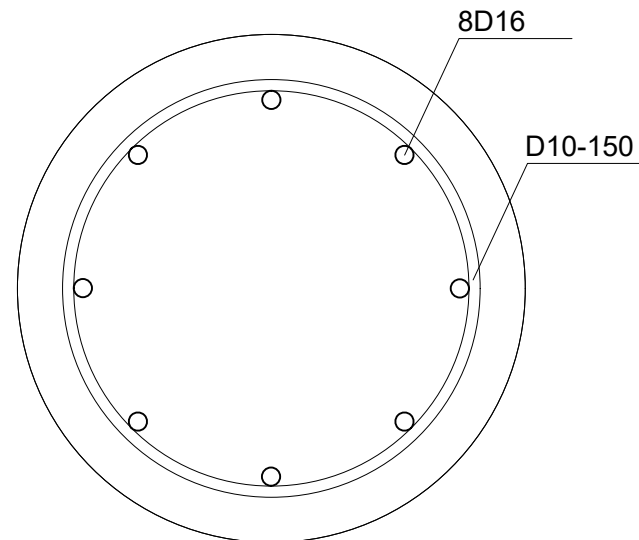
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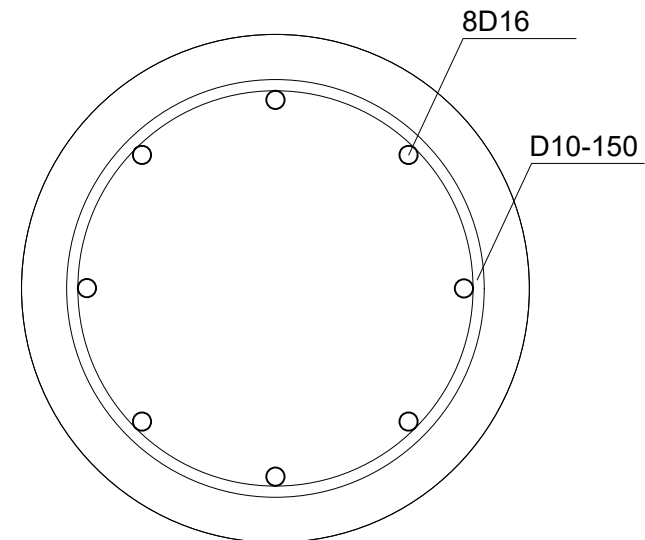
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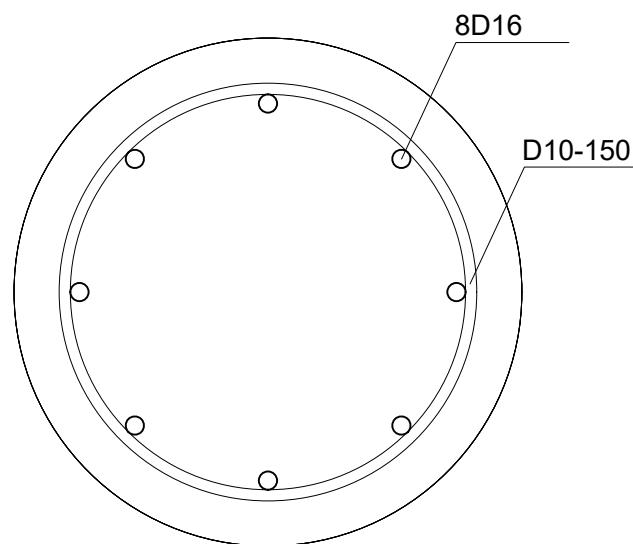
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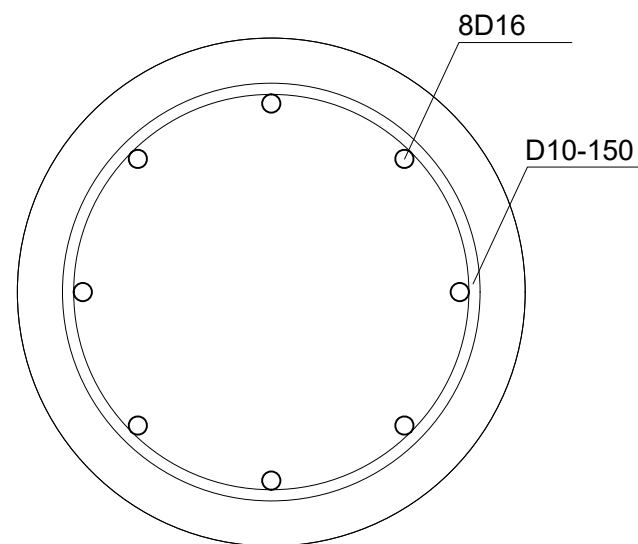
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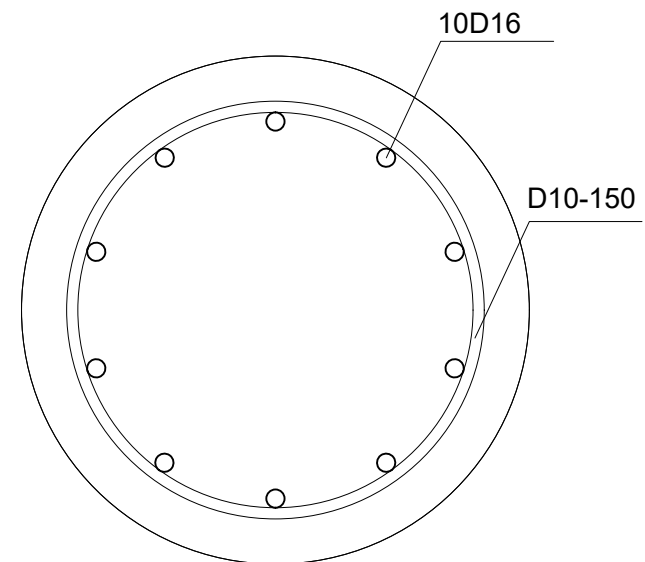
C Pile Section Detail Type-3



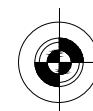
D Pile Section Detail Type-4



E Pile Section Detail Type-5



F Pile Section Detail Type-4



Pile Foundation Section Detail



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GROUP 3

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Drawing Title

Scale

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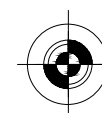
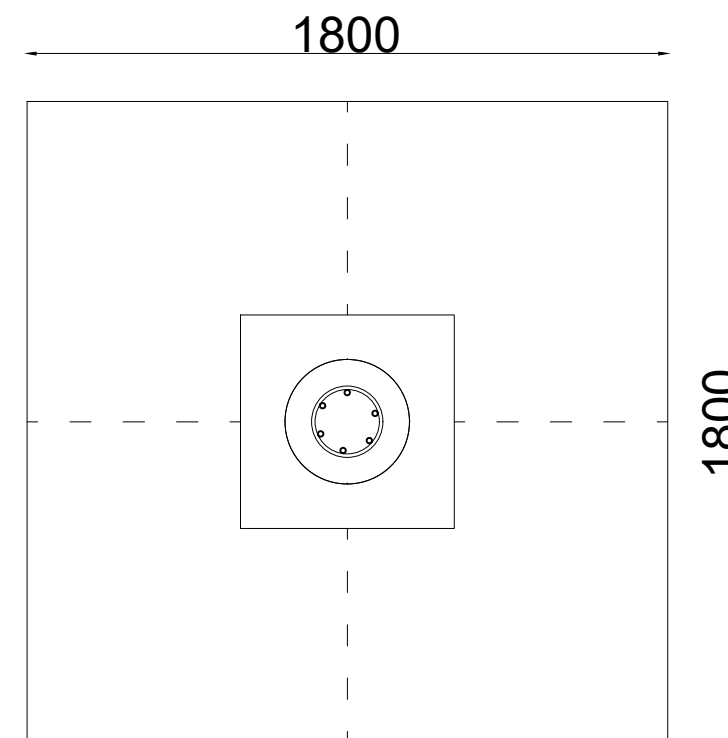
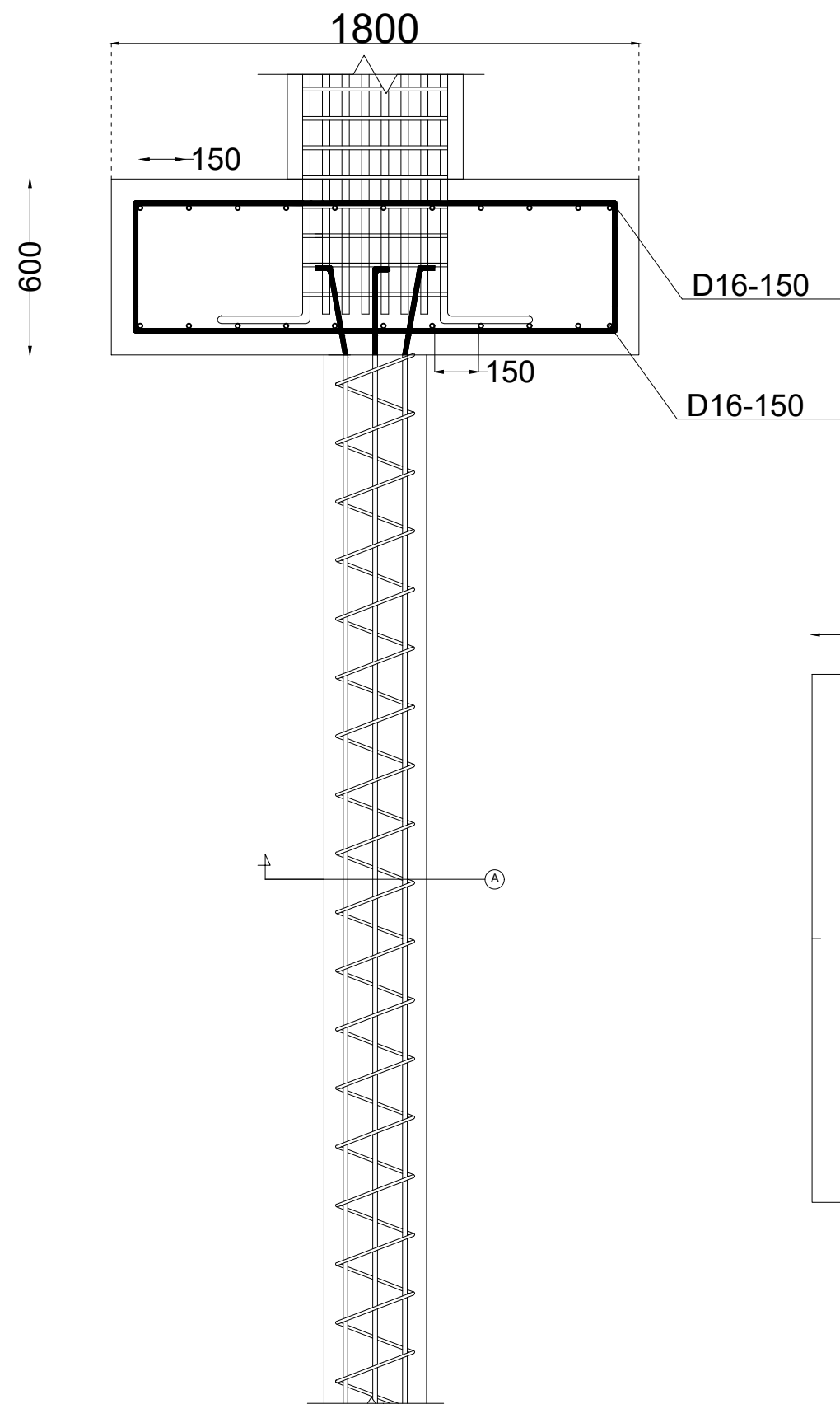
Drawing Title

Scale

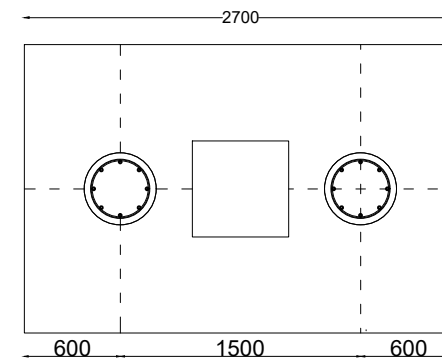
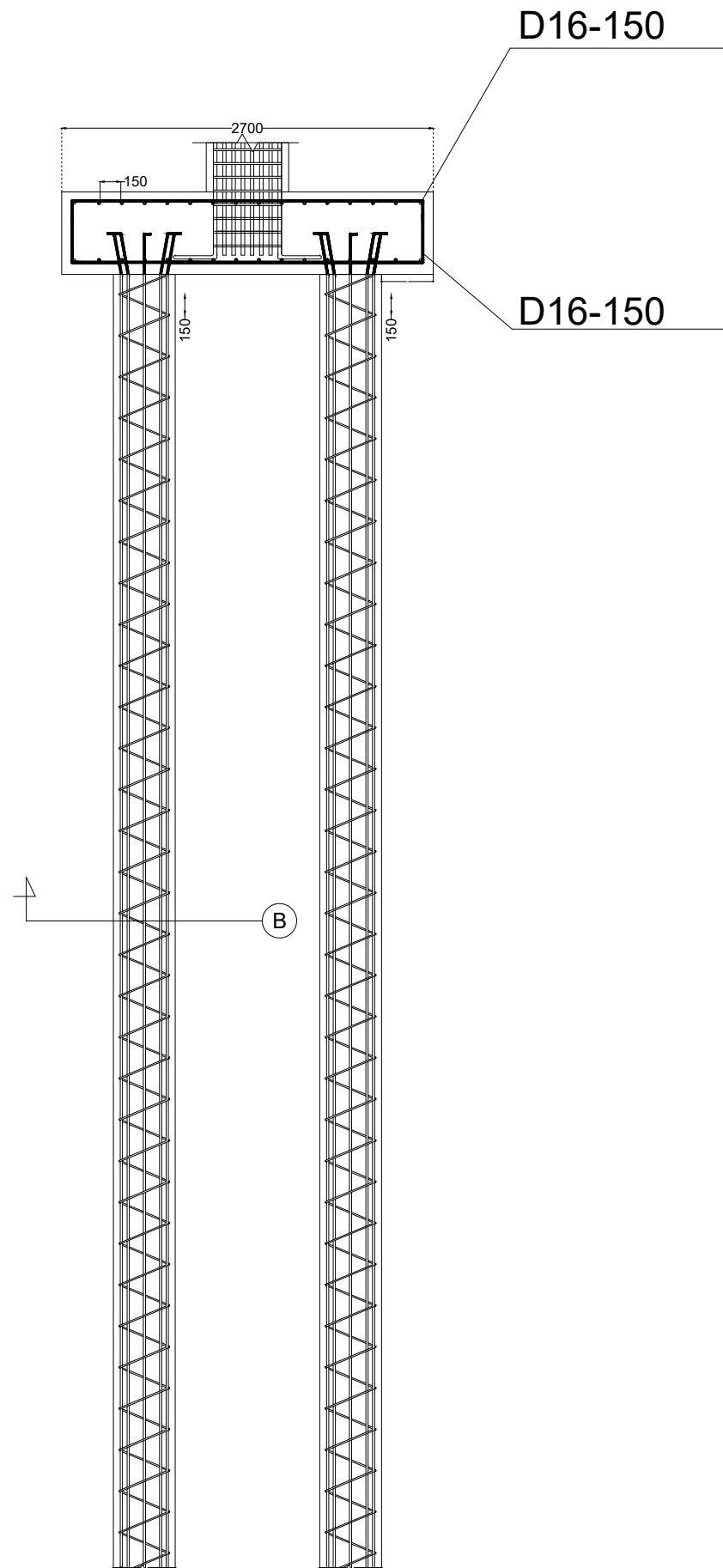
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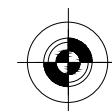
Drawing Dates

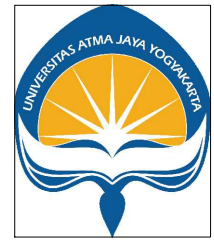
Drawing Codes



Pile Foundation Detail (Type 1)



 Pile Foundation Detail (Type 2)



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Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

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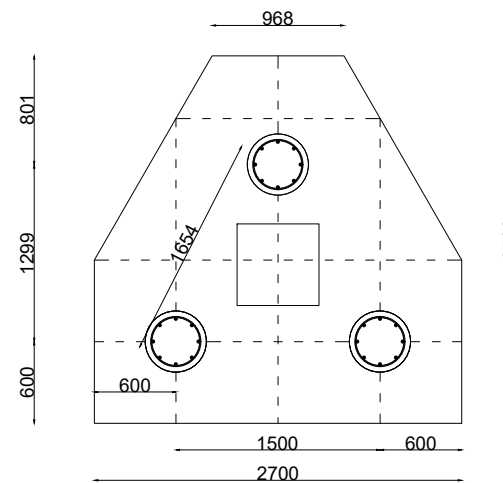
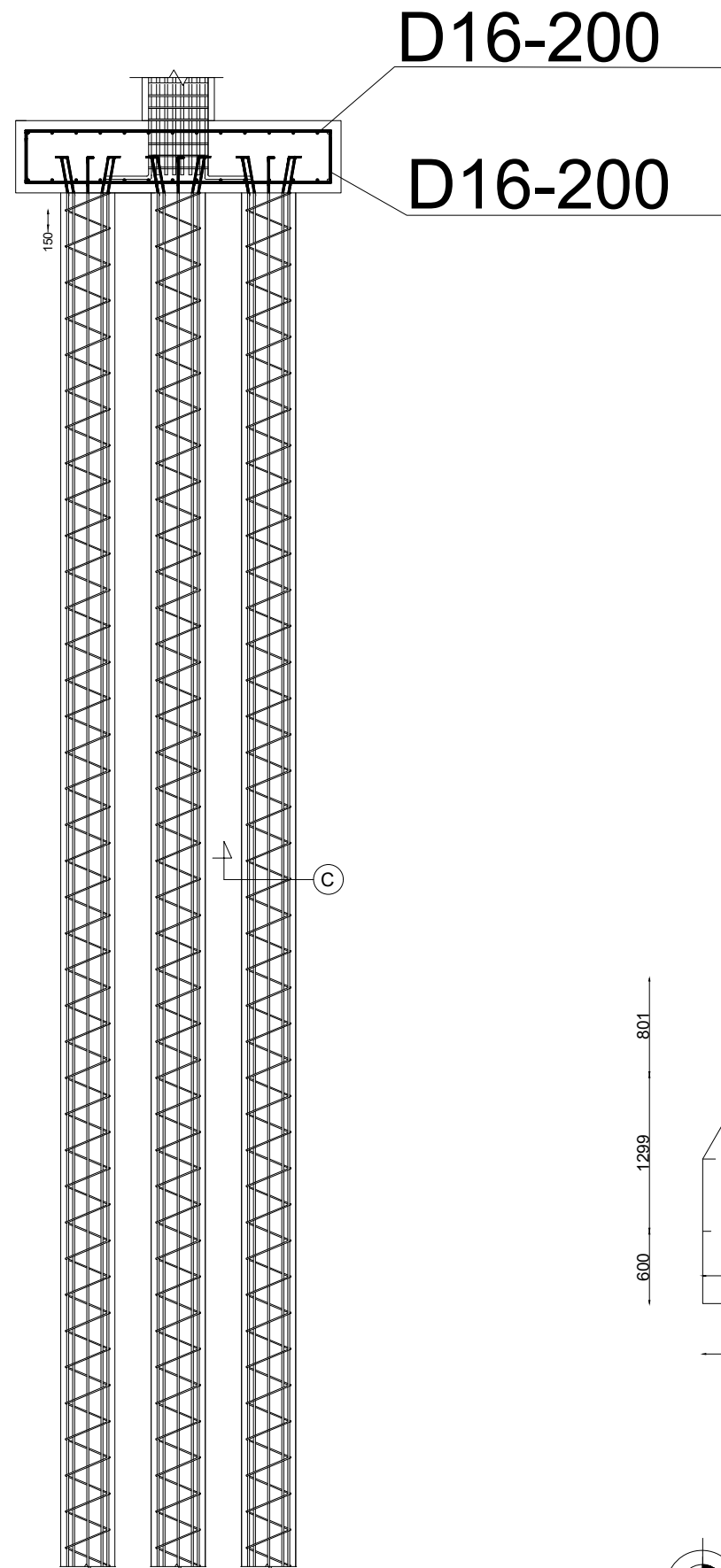
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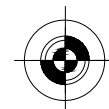
Scale

Notes

Drawing Dates

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 Pile Foundation Detail (Type 3)



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Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

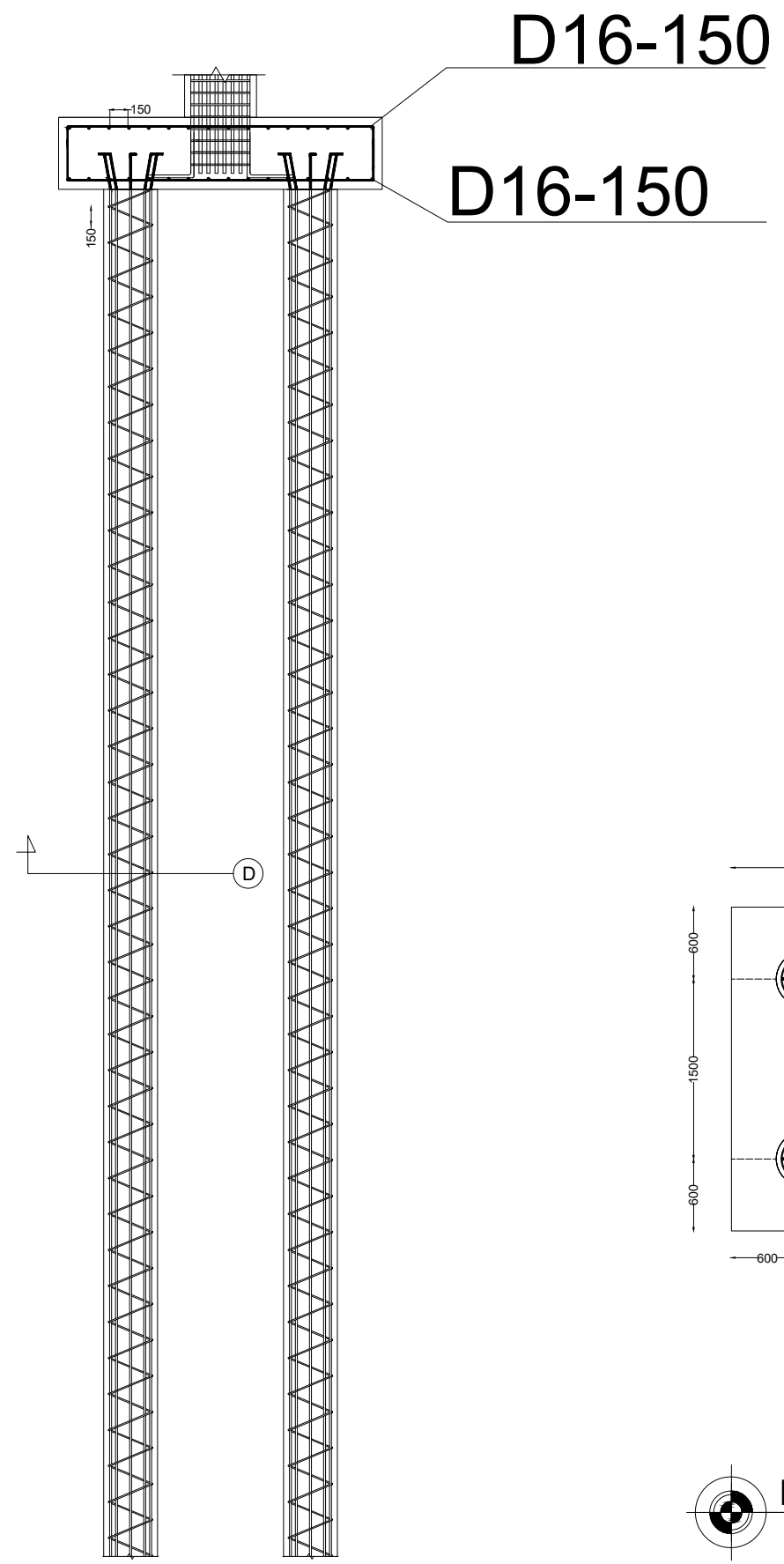
Drawing Title

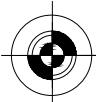
Scale

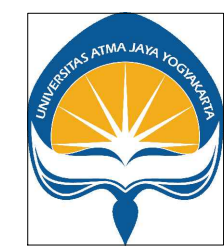
Notes

Drawing Dates

Drawing Codes



 **Pile Foundation Detail (Type 4)**



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 Public Library and Co-Working Space
 Design in Yogyakarta

Project Location
 Jl. Kenari, Kec. Umbulharjo, Yogyakarta

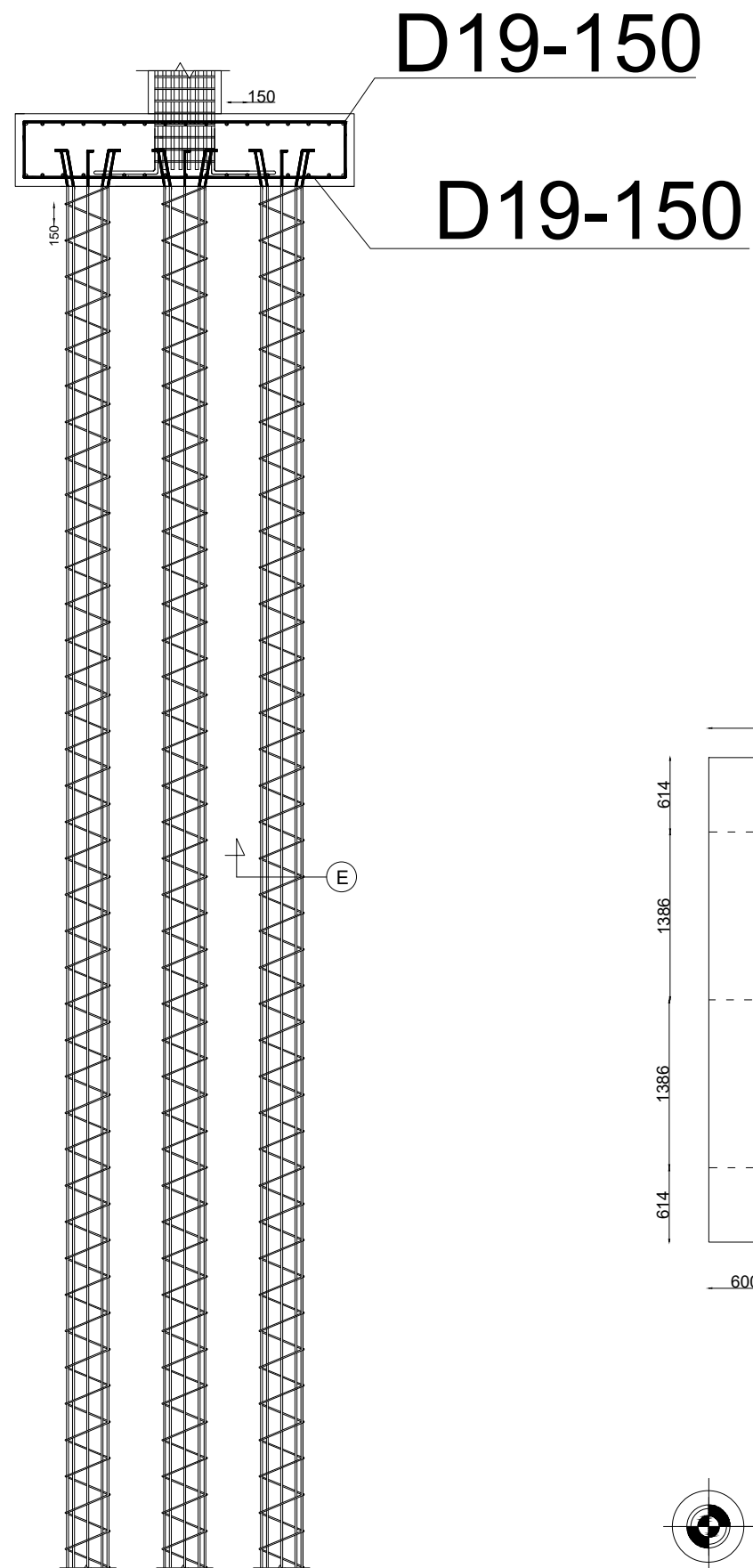
Student Identity
 GROUP 3
 Bryan Rowson 201318009

Drawing Title	Scale

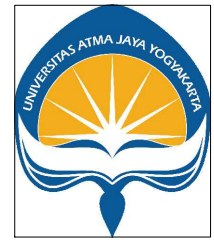
Notes

Drawing Dates

Drawing Codes



 **Pile Foundation Detail (Type 5)**



Universitas Atma Jaya Yogyakarta

International Civil Engineering Program
Civil Engineering Department
Faculty of Engineering

Final Project Infrastructure Design 2

PERIOD : ODD

ACADEMIC YEAR 2023/2024

Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

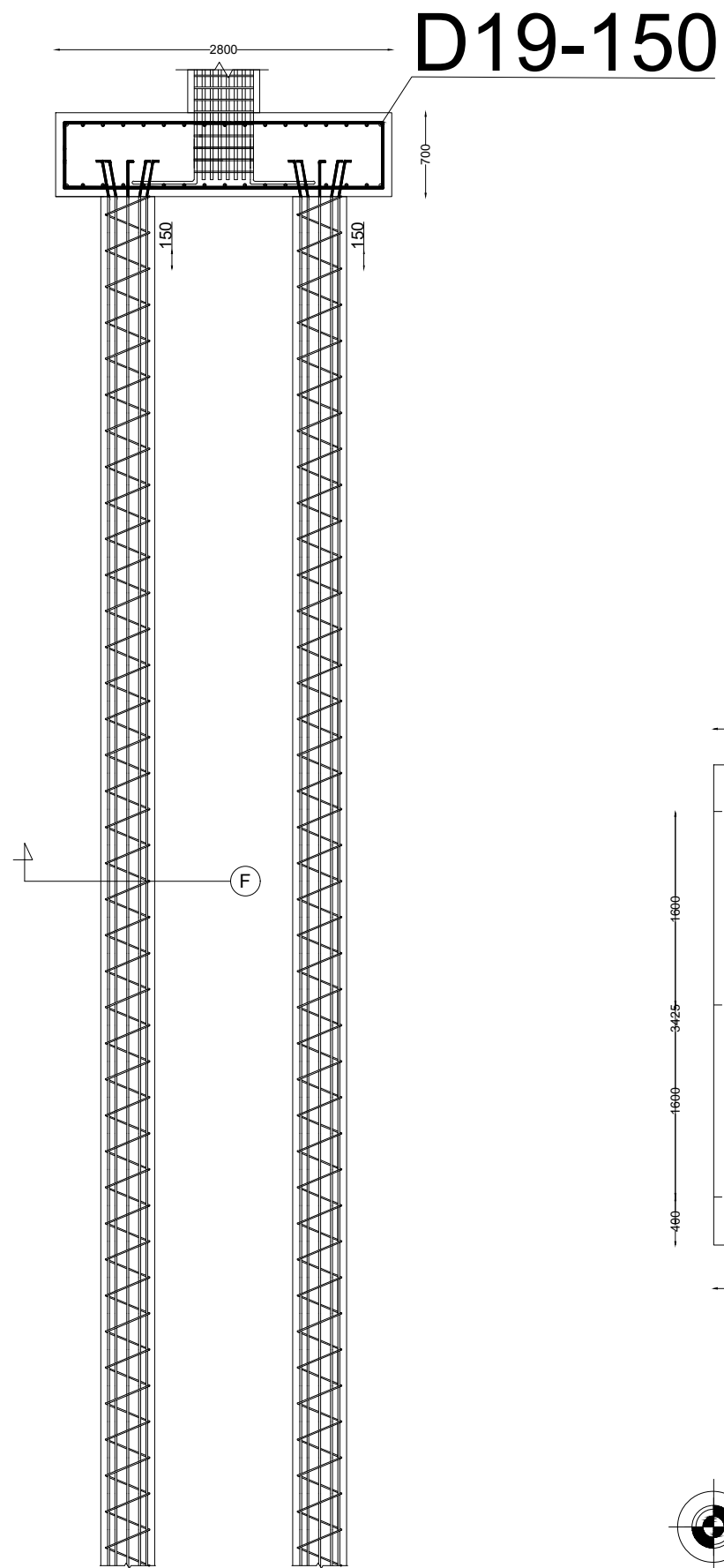
Drawing Title


Scale

Notes

Drawing Dates

Drawing Codes



 Pile Foundation Detail (Type 6)



Universitas Atma Jaya Yogyakarta

International Civil Engineering Program
Civil Engineering Department
Faculty of Engineering

Final Project Infrastructure Design 2

PERIOD : ODD

ACADEMIC YEAR 2023/2024

Project Title

Public Library and Co-Working Space
Design in Yogyakarta

Project Location

Jl. Kenari, Kec. Umbulharjo, Yogyakarta

Student Identity

GROUP 3

Bryan Rowson 201318009

Drawing Title

Scale

Notes

Drawing Dates

Drawing Codes

PREPARATION**1 m2 of clearing and land levelling**

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Operator	OH	0,038	126.000	4.788
2	Operator Helper	OH	0,038	104.000	3.952
3	Workers	OH	0,0253	93.000	2.353
4	Foreman	OH	0,0253	120.000	3.036
			Total Workers		14.129
B	MATERIAL				
			Total Material		
C	TOOLS				
1	Excavator		0,028		-
			Total Tools		-
D	Total (A+B+C)				14.129
E	Overhead and Profit				2.119
F	Work Unit Cost (D+E)				16.248

Create the project name board (80x120 cm) (flexy)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1	93.000	93.000
2	Stonemason	OH	0,0175	104.000	1.820
3	Carpenter	OH	1	106.000	106.000
4	Foreman	OH	0,1	120.000	12.000
			Total Workers		212.820
B	MATERIAL				
1	Meranti wood	m3	0,035	5.819.000	203.665
2	Flexy print outdoor	m2	1	16.750	16.750
3	General nail	kg	0,6	14.000	8.400
4	Portland Cement	kg	16,8	1.175	19.740

5	Concrete sand	m3	0,027	157	4
6	Gravel	m3	0,0405	79.000	3.200
			Total Material		251.759
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				464.579
E	Overhead and Profit				69.687
F	Work Unit Cost (D+E)				534.266

(OHS) Build the concrete storage and tools building

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Carpenter	OH	0,4	106.000	42.400
3	Headman	OH	0,04	115.000	4.600
4	Foreman	OH	0,05	120.000	6.000
			Total Workers		164.600
B	MATERIAL				
1	Dolken wood diameter 8/10-400 cm	btg	1,7	17.075	29.028
2	Wood	m3	0,21	3.500.000	735.000
3	General nail 2"-5"	kg	0,3	14.000	4.200
4	Portland cement	kg	10,5	1.175	12.338
5	Concrete Sand	m3	0,03	157	5
6	Concrete Coral	m3	0,05	300.000	15.000
7	Wave zinc	Lbr	1,5	89.000	133.500
8	Zinc plate	Lbr	0,25	42.300	10.575
			Total Material		939.645
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				1.104.245
E	Overhead and Profit				165.637
F	Work Unit Cost (D+E)				1.269.881

(OHS) Build the 1m3 of workers bunk

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Stonemason	OH	0,4	104.000	41.600
3	Headman	OH	0,04	115.000	4.600
4	Foreman	OH	0,05	120.000	6.000
				Total Workers	163.800
B	MATERIAL				
1	Dolken wood diameter 8/10-400 cm	btg	1,25	17.075	21.344
2	Wood	m3	0,186	3.500.000	651.000
3	General nail	kg	0,3	14.000	4.200
4	Portland cement	kg	18	1.175	21.150
5	Concrete Sand	m3	0,03	157	5
6	Concrete Coral	m3	0,05	300.000	15.000
7	Wave zinc	Lbr	1,5	89.000	133.500
8	Plywood 4 mm	Lbr	1,35	87.000	117.450
				Total Material	963.648
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				1.127.448
E	Overhead and Profit				169.117
F	Work Unit Cost (D+E)				1.296.566

Build 1 m2 of Temporary wood fence of 2m

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Stonemason	OH	0,4	104.000	41.600
3	Headman	OH	0,02	115.000	2.300
4	Foreman	OH	0,02	120.000	2.400
				Total Workers	64.900

B	MATERIAL				
1	Dolken wood diameter 8/10-400 cm	btg	1,25	17.075	21.344
2	Portland cement	kg	5	1.175	5.875
3	Concrete Sand	kg	0,005	157	1
4	Concrete Coral	kg	0,009	300.000	2.700
5	Wood 5/7	m3	0,072	1.672.000	120.384
6	General General nail 2"-5"	m3	0,06	#N/A	#N/A
7	Residu	Liter	0,4	14.750	5.900
				Total Material	150.304
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				215.204
E	Overhead and Profit				32.281
F	Work Unit Cost (D+E)				247.484

Build 1 m2 of Security site building (2x2)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Stonemason	OH	0,4	104.000	41.600
3	Headman	OH	0,01	115.000	1.150
4	Foreman	OH	0,005	120.000	600
				Total Workers	154.950
B	MATERIAL				
1	Dolken wood diameter 8/10-400 cm	btg	1,7	17.075	29.028
2	Wood	m3	0,21	3.500.000	735.000
3	General nail	kg	0,3	14.000	4.200
4	Portland cement	kg	10,5	1.175	12.338
5	Concrete Sand	m3	0,03	157	5
6	Concrete Coral	m3	0,05	300.000	15.000
7	Wave zinc	Lbr	1,5	89.000	133.500
8	Zinc plate	Lbr	0,25	42.300	10.575
				Total Material	939.645

C	TOOLS			
			Total Tools	
D	Total (A+B+C)			1.094.595
E	Overhead and Profit			164.189
F	Work Unit Cost (D+E)			1.258.784

Build 1 m2 of temporary office (plastering floor)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Carpenter	OH	0,4	106.000	42.400
3	Headman	OH	0,04	115.000	4.600
4	Foreman	OH	0,05	120.000	6.000
			Total Workers		164.600
B	MATERIAL				
1	Dolken wood diameter 8-10/400 cm	btg	1,25	17.075	21.344
2	Wood	m3	0,18	3.500.000	630.000
3	General nail	kg	0,08	14.000	1.120
4	Strip steel	kg	1,1	12.140	13.354
5	Portland Cement	kg	35	1.175	41.125
6	Tidal sand	m3	0,15	275.000	41.250
7	Concrete sand	m3	0,1	157	16
8	Concrete coral	m3	0,15	300.000	45.000
9	Brick	bh	30	8.400	252.000
10	Zinc plate	lbr	0,25	42.300	10.575
11	Windows	bh	0,2	225.000	45.000
12	Glass	m2	0,08	800.000	64.000
13	Key	bh	0,15	65.000	9.750
14	Plywood 4 mm	lbr	0,06	87.000	5.220
			Total Material		1.179.753
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				1.344.353

E	Overhead and Profit		201.653
F	Work Unit Cost (D+E)		1.546.006

1 m2 of surveying and installation of bowplank

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,1	93.000	9.300
2	Carpenter	OH	0,1	106.000	10.600
3	Headman	OH	0,01	115.000	1.150
4	Foreman	OH	0,005	120.000	600
				Total Workers	21.650
B	MATERIAL				
1	Wood 5/7	m3	0,012	1.672.000	20.064
2	General nail	kg	0,02	14.000	280
3	Wooden board 3/20	m3	0,007	4.114.583	28.802
				Total Material	49.146
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				70.796
E	Overhead and Profit				10.619
F	Work Unit Cost (D+E)				81.415

SOIL WORK

1 m3 of soil excavation for 1 m

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Operator	OH	0,038	126000	4.788
2	Operator Helper	OH	0,038	104000	3.952
3	Workers	OH	0,0253	93000	2.353
4	Foreman	OH	0,0063	120000	756
				Total Workers	11.849

B	MATERIAL				
			Total Material		
C	TOOLS				
1	Excavator	day	0,0028	1.320.000	3.696
			Total Tools		
D	Total (A+B+C)				11.849
E	Overhead and Profit				1.777
F	Work Unit Cost (D+E)				13.626

1m3 of soil compaction

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,5	93000	46.500
2	Foreman	OH	0,05	120000	6.000
			Total Workers		52.500
B	MATERIAL				
			Total Material		-
C	TOOLS				
1	Stamper	Sewa-Hari	0,05	245000	12.250
			Total Tools		12.250
D	Total (A+B+C)				64.750
E	Overhead and Profit				9.713
F	Work Unit Cost (D+E)				74.463

1 m3 of Lean concrete using Mix concrete $f_c' = 7.4$ MPa (K-100) -> 1Portland Cement: 2PB: 3Kr

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93000	111.600
2	Stonemason	OH	0,2	104000	20.800
3	Headman	OH	0,02	115000	2.300

4	Foreman	OH	0,132	120000	15.840
			Total Workers		150.540
B	MATERIAL				
1	Portland cement	kg	220	1175	258.500
2	Concrete sand (PB)	m3	0,558	157	88
3	Gravel	m3	0,755	79000	59.645
4	Water	L	200	60	12.000
			Total Material		330.233
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				480.773
E	Overhead and Profit				72.116
F	Work Unit Cost (D+E)				552.888

1m3 of Landfill with Sandstone					
No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93000	27.900
2	Foreman	OH	0,01	120000	1.200
			Total Workers		29.100
B	MATERIAL				
1	Sandstone	btg	1,2	141000	169.200
			Total Material		169.200
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				198.300
E	Overhead and Profit				29.745
F	Work Unit Cost (D+E)				228.045

CONCRETE WORK

PEMASANGAN TOWER CRANE

1 M2 1st Pilecap formwork with multiflex 12 mm

	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman of Carpenter	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400
				Total Workers	31.715
B	MATERIAL				
1	Multiflex 12 mm	lbr	0,353	120.000	42.360
2	Kaso 5/7 cm	m3	0,014	1.672.000	23.408
3	Nail of 5 cm or 7 cm	kg	0,22	17.850	3.927
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	72.455
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				104.170
E	Overhead and Profit				15.626
F	Work Unit Cost (D+E)				119.796
					51.234.139

1 M2 1st floor slab formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman of Carpenter	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400

				Total Workers	31.715
B	MATERIAL				
1	Multiflex 12 mm	lbr	0,353	120.000	42.360
2	Kaso 5/7 cm	m3	0,014	1.672.000	23.408
3	Nail of 5 cm or 7 cm	kg	0,22	17.850	3.927
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	72.455
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				104.170
E	Overhead and Profit				15.626
F	Work Unit Cost (D+E)				119.796
					326.540.071

1 m2 2nd floor floorslab scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93.000	27.900
2	Carpenter	OH	0,15	106.000	15.900
3	Headman of Carpenter	OH	0,015	115.000	1.725
4	Foreman	OH	0,03	120.000	3.600
				Total Workers	49.125
B	MATERIAL				
1	Kaso 5/7 cm	btg	0,035	1.672.000	58.520
2	Nail of 5 cm or 7 cm	m3	0,25	17.850	4.463
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				20.363
E	Overhead and Profit				3.054
F	Work Unit Cost (D+E)				23.417
					#REF!

1 m2 3rd floor floorslab scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93.000	27.900
2	Carpenter	OH	0,15	106.000	15.900
3	Headman	OH	0,015	115.000	1.725
4	Foreman	OH	0,03	120.000	3.600
				Total Workers	49.125
B	MATERIAL				
1	Kaso 5/7 cm	btg	0,063	1.672.000	105.336
2	Nail of 5 cm or 7 cm	m3	0,25	17.850	4.463
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				20.363
E	Overhead and Profit				3.054
F	Work Unit Cost (D+E)				23.417
					#RCP!

or 0.035

1 m2 4th floor floorslab scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93.000	27.900
2	Carpenter	OH	0,15	106.000	15.900
3	Headman	OH	0,015	115.000	1.725
4	Foreman	OH	0,03	120.000	3.600
				Total Workers	49.125
B	MATERIAL				
1	Kaso 5/7 cm	btg	0,063	1.672.000	105.336
2	Nail of 5 cm or 7 cm	m3	0,25	17.850	4.463
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				20.363

or 0.02

E	Overhead and Profit		3.054
F	Work Unit Cost (D+E)		23.417
			#REF!

1 M2 2nd floor slab formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman of Carpenter	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400
			Total Workers		31.715
B	MATERIAL				
1	Multiflex 12 mm	btg	0,203	120.000	24.360
2	Kaso 5/7 cm	m3	0,008	1.672.000	13.376
3	Nail of 5 cm or 7 cm	kg	0,22	17.850	3.927
4	Formwork oil	Liter	0,2	13.800	2.760
			Total Material		44.423
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				76.138
E	Overhead and Profit				11.421
F	Work Unit Cost (D+E)				87.559
					264.818.552

1 M2 3rd floor slab formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman of Carpenter	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400
			Total Workers		31.715

B	MATERIAL				
1	Multiflex 12 mm	lbr	0,128	120.000	15.360
2	Kaso 5/7 cm	m3	0,005	1.672.000	8.360
3	Nail of 5 cm or 7 cm	kg	0,22	17.850	3.927
4	Formwork oil	Liter	0,2	13.800	2.760
			Total Material		30.407
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				62.122
E	Overhead and Profit				9.318
F	Work Unit Cost (D+E)				71.440
					231.680.893

1 M2 4th floor slab formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman of Carpenter	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400
			Total Workers		31.715
B	MATERIAL				
1	Multiflex 12 mm	btg	0,091	120.000	10.920
2	Kaso 5/7 cm	m3	0,003	1.672.000	5.016
3	Nail of 5 cm or 7 cm	kg	0,22	17.850	3.927
4	Formwork oil	Liter	0,2	13.800	2.760
			Total Material		22.623
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				54.338
E	Overhead and Profit				8.151
F	Work Unit Cost (D+E)				62.489

22.495.932

1m2 1st floor beam formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,36	106.000	38.160
3	Headman of Carpenter	OH	0,036	115.000	4.140
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	80.100
B	MATERIAL				
1	Multiflex 12 mm	btg	0,353	120.000	42.360
2	Kaso 5/7 cm	m3	0,041	1.672.000	68.552
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	118.135
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				198.235
E	Overhead and Profit				29.735
F	Work Unit Cost (D+E)				227.970
					421.447.538

1m2 2nd floor beam formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,36	106.000	38.160
3	Headman of Carpenter	OH	0,036	115.000	4.140
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	80.100
B	MATERIAL				
1	Multiflex 12 mm	btg	0,203	120.000	24.360

2	Kaso 5/7 cm	m3	0,023	1.672.000	38.456
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	70.039
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				150.139
E	Overhead and Profit				22.521
F	Work Unit Cost (D+E)				172.659
					345.681.134

1m2 3rd floor beam formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,36	106.000	38.160
3	Headman	OH	0,036	115.000	4.140
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	80.100
B	MATERIAL				
1	Multiflex 12 mm	btg	0,128	120.000	15.360
2	Kaso 5/7 cm	m3	0,013	1.672.000	21.736
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	44.319
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				124.419
E	Overhead and Profit				18.663
F	Work Unit Cost (D+E)				143.081
					329.596.660

1m2 4th floor beam formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,36	106.000	38.160
3	Headman	OH	0,036	115.000	4.140
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	80.100
B	MATERIAL				
1	Multiflex 12 mm	btg	0,091	120.000	10.920
2	Kaso 5/7 cm	m3	0,009	1.672.000	15.048
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	33.191
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				113.291
E	Overhead and Profit				16.994
F	Work Unit Cost (D+E)				130.284
					114.128.850

1m2 of 2nd floor beam formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,18	106.000	19.080
3	Headman	OH	0,018	115.000	2.070
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	58.950
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,035	1.672.000	58.520
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
				Total Material	62.804

C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				121.754
E	Overhead and Profit				18.263
F	Work Unit Cost (D+E)				140.017
					280.328.236

1m2 of 3rd floor beam formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,18	106.000	19.080
3	Headman	OH	0,018	115.000	2.070
4	Foreman	OH	0,036	120.000	4.320
				Total Workers	58.950
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,035	1.672.000	58.520
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
				Total Material	62.804
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				121.754
E	Overhead and Profit				18.263
F	Work Unit Cost (D+E)				140.017
					322.538.141

or 0.019

1m2 of 4th floor beam formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,36	93.000	33.480
2	Carpenter	OH	0,18	106.000	19.080
3	Headman	OH	0,018	115.000	2.070

4	Foreman	OH	0,036	120.000	4.320
			Total Workers		58.950
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,035	1.672.000	58.520
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
			Total Material		62.804
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				121.754
E	Overhead and Profit				18.263
F	Work Unit Cost (D+E)				140.017
					122.654.980

0,011

1m2 of 1st colum formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,33	93.000	30.690
2	Carpenter	OH	0,33	106.000	34.980
3	Headman	OH	0,033	115.000	3.795
4	Foreman	OH	0,033	120.000	3.960
			Total Workers		73.425
B	MATERIAL				
1	Multiflex 12 mm	btg	0,353	120.000	42.360
2	Kaso 5/7 cm	m3	0,017	1.672.000	28.424
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
			Total Material		78.007
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				151.432
E	Overhead and Profit				22.715
F	Work Unit Cost (D+E)				174.146

119.383.507

1m2 of 2nd colum formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,33	93.000	30.690
2	Carpenter	OH	0,33	106.000	34.980
3	Headman	OH	0,033	115.000	3.795
4	Foreman	OH	0,033	120.000	3.960
				Total Workers	73.425
B	MATERIAL				
1	Multiflex 12 mm	btg	0,203	120.000	24.360
2	Kaso 5/7 cm	m3	0,009	1.672.000	15.048
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	46.631
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				120.056
E	Overhead and Profit				18.008
F	Work Unit Cost (D+E)				138.064
					90.858.699

1m2 of 3rd colum formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,33	93.000	30.690
2	Carpenter	OH	0,33	106.000	34.980
3	Headman	OH	0,033	115.000	3.795
4	Foreman	OH	0,033	120.000	3.960
				Total Workers	73.425
B	MATERIAL				
1	Multiflex 12 mm	btg	0,128	120.000	15.360

2	Kaso 5/7 cm	m3	0,006	1.672.000	10.032
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
				Total Material	32.615
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				106.040
E	Overhead and Profit				15.906
F	Work Unit Cost (D+E)				121.945
					40.160.043

1m2 of 2nd column formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,34	93.000	31.620
2	Carpenter	OH	0,17	106.000	18.020
3	Headman	OH	0,017	115.000	1.955
4	Foreman	OH	0,034	120.000	4.080
				Total Workers	55.675
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,033	1.672.000	55.176
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
				Total Material	59.460
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				115.135
E	Overhead and Profit				17.270
F	Work Unit Cost (D+E)				132.405
					87.134.836

1m2 of 3rd column formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
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A	WORKERS				
1	Workers	OH	0,34	93.000	31.620
2	Carpenter	OH	0,17	106.000	18.020
3	Headman	OH	0,017	115.000	1.955
4	Foreman	OH	0,034	120.000	4.080
			Total Workers		55.675
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,018	1.672.000	30.096
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
			Total Material		34.380
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				90.055
E	Overhead and Profit				13.508
F	Work Unit Cost (D+E)				103.563
					34.106.278

1m2 of pile cap formwork with multiflex 12 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Carpenter	OH	0,1	106.000	10.600
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,02	120.000	2.400
			Total Workers		31.715
B	MATERIAL				
1	Multiflex 12 mm	btg	0,353	120.000	42.360
2	Kaso 5/7 cm	m3	0,209	1.672.000	349.448
3	Nail of 5 cm or 7 cm	kg	0,25	17.850	4.463
4	Formwork oil	Liter	0,2	13.800	2.760
			Total Material		399.031
C	TOOLS				
1				-	-

		Total Tools	
D	Total (A+B+C)		430.746
E	Overhead and Profit		64.612
F	Work Unit Cost (D+E)		495.357

1 m2 Formwork of Stairs

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,33	93.000	30.690
2	Stonemason	OH	0,33	104.000	34.320
3	Headman	OH	0,033	115.000	3.795
4	Foreman	OH	0,033	120.000	3.960
			Total Workers		72.765
B	MATERIAL				
1	Wood Class III	m3	0,03	3.541.667	106.250
2	Nail 5-12 cm	kg	0,4	17.850	7.140
3	Formwork oil	L	0,15	13.800	2.070
4	Wood Beam Class II	M3	0,015	1.750.000	26.250
5	Plyood thickness of 9 mm	Lbr	0,35	87.000	30.450
6	Dolken wood 9-10 cm, 4 m length	Btg	2	17.075	34.150
			Total Material		206.310
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				279.075
E	Overhead and Profit				41.861
F	Work Unit Cost (D+E)				320.936

1m2 of floor stairs formwork's scaffolding with kaso 5/7

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,34	93.000	31.620
2	Carpenter	OH	0,17	106.000	18.020

3	Headman	OH	0,017	115.000	1.955
4	Foreman	OH	0,034	120.000	4.080
				Total Workers	55.675
B	MATERIAL				
1	Kaso 5/7 cm	m3	0,007	1.672.000	11.704
2	Nail of 5 cm or 7 cm	kg	0,24	17.850	4.284
				Total Material	15.988
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				71.663
E	Overhead and Profit				10.749
F	Work Unit Cost (D+E)				82.412

1m2 formwork taking off carefully (pile cap_

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580
2	Foreman	OH	0,006	120.000	720
				Total Workers	6.300
B	MATERIAL				
				Total Material	-
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				6.300
E	Overhead and Profit				945
F	Work Unit Cost (D+E)				7.245

1m2 formwork taking off carefully (slab)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580

2	Foreman	OH	0,006	120.000	720
			Total Workers		6.300
B	MATERIAL				
			Total Material		-
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				6.300
E	Overhead and Profit				945
F	Work Unit Cost (D+E)				7.245

1m2 formwork taking off carefully (column)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580
2	Foreman	OH	0,006	120.000	720
			Total Workers		6.300
B	MATERIAL				
			Total Material		-
C	TOOLS				
1				-	-
			Total Tools		
D	Total (A+B+C)				6.300
E	Overhead and Profit				945
F	Work Unit Cost (D+E)				7.245

1m2 formwork taking off carefully (beam and sloof)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580
2	Foreman	OH	0,006	120.000	720
			Total Workers		6.300
B	MATERIAL				

				Total Material	-
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				6.300
E	Overhead and Profit				945
F	Work Unit Cost (D+E)				7.245

1m2 formwork taking off carefully (stairs)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580
2	Foreman	OH	0,006	120.000	720
				Total Workers	6.300
B	MATERIAL				
				Total Material	-
C	TOOLS				
1				-	-
				Total Tools	
D	Total (A+B+C)				6.300
E	Overhead and Profit				945
F	Work Unit Cost (D+E)				7.245

1m3 of K350 ready mixed concrete casting with concrete pump (pile cap and bored pile)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Stonemason	OH	0,25	104.000	26.000
3	Headman	OH	0,025	115.000	2.875
4	Foreman	OH	0,12	120.000	14.400
				Total Workers	154.875
B	MATERIAL				

1	Ready mixed	m3	1,02	910.000	928.200
				Total Material	928.200
C	TOOLS				
1	Concrete pump and conveyor	Rent/day	0,12	4.950.000	594.000
				Total Tools	594.000
D	Total (A+B+C)				1.677.075
E	Overhead and Profit				251.561
F	Work Unit Cost (D+E)				1.928.636
					1.459.451.707

1m3 of K350 ready mixed concrete casting with concrete pump (slab)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,2	93.000	111.600
2	Stonemason	OH	0,25	104.000	26.000
3	Headman	OH	0,025	115.000	2.875
4	Foreman	OH	0,12	120.000	14.400
				Total Workers	154.875
B	MATERIAL				
1	Ready mixed	m3	1,02	910.000	928.200
				Total Material	928.200
C	TOOLS				
1	Concrete pump and conveyor	Rent/day	0,24	4.950.000	1.188.000
				Total Tools	1.188.000
D	Total (A+B+C)				2.271.075
E	Overhead and Profit				340.661
F	Work Unit Cost (D+E)				2.611.736
					-

1m3 of K350 ready mixed concrete casting with concrete pump (column)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,45	93.000	134.850
2	Stonemason	OH	0,25	104.000	26.000

3	Headman	OH	0,025	115.000	2.875
4	Foreman	OH	0,145	120.000	17.400
				Total Workers	181.125
B	MATERIAL				
1	Ready mixed	m3	1,14	910.000	1.037.400
				Total Material	1.037.400
C	TOOLS				
1	Concrete pump and conveyor	Rent/day	0,36	4.950.000	1.782.000
				Total Tools	1.782.000
D	Total (A+B+C)				3.000.525
E	Overhead and Profit				450.079
F	Work Unit Cost (D+E)				3.450.604

1m3 of K350 ready mixed concrete casting with concrete pump (beam)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,45	93.000	134.850
2	Stonemason	OH	0,25	104.000	26.000
3	Headman	OH	0,025	115.000	2.875
4	Foreman	OH	0,145	120.000	17.400
				Total Workers	181.125
B	MATERIAL				
1	Ready mixed	m3	1,14	910.000	1.037.400
				Total Material	1.037.400
C	TOOLS				
1	Concrete pump and conveyor	Rent/day	0,36	4.950.000	1.782.000
2	Vibrator		0,75	650.000	487.500
				Total Tools	1.782.000
D	Total (A+B+C)				3.000.525
E	Overhead and Profit				450.079
F	Work Unit Cost (D+E)				3.450.604

10 kg of reinforcing with Threaded steel (bore pile and pile cap)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,07	93.000	6.510
2	Steel worker	OH	0,07	105.000	7.350
3	Headman	OH	0,007	115.000	805
4	Foreman	OH	0,004	120.000	480
				Total Workers	15.145
B	MATERIAL				
1	Threades steel	kg	10,5	10.400	109.200
2	Bend wire	kg	1,05	25.800	27.090
				Total Material	136.290
C	TOOLS				
1	Cutting reinforcement	rent/day	0,02	75.000	1.500
				Total Tools	
D	Total (A+B+C)				152.935
E	Overhead and Profit				22.940
F	Work Unit Cost (D+E)				175.875
					153.139.860

100 kg of reinforcing with Threaded steel (slab) 1st floor

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,7	93.000	65.100
2	Steel worker	OH	0,7	105.000	73.500
3	Headman	OH	0,07	115.000	8.050
4	Foreman	OH	0,07	120.000	8.400
				Total Workers	155.050
B	MATERIAL				
1	Threades steel	kg	105	10.400	1.092.000
2	Bend wire	kg	1,5	25.800	38.700
				Total Material	1.130.700
C	TOOLS				
1	Cutting reinforcement	kg	0,04	75.000	3.000

		Total Tools	
D	Total (A+B+C)		1.288.750
E	Overhead and Profit		193.313
F	Work Unit Cost (D+E)		1.482.063
			323.363.710

100 kg of reinforcing with Threaded steel (slab) 2nd floor

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,7	93.000	65.100
2	Steel worker	OH	0,7	105.000	73.500
3	Headman	OH	0,07	115.000	8.050
4	Foreman	OH	0,07	120.000	8.400
			Total Workers		155.050
B	MATERIAL				
1	Threades steel	kg	105	10.400	1.092.000
2	Bend wire	kg	1,5	25.800	38.700
			Total Material		1.130.700
C	TOOLS				
1	Cutting reinforcement	kg	0,75	75.000	56.250
			Total Tools		
D	Total (A+B+C)				1.342.000
E	Overhead and Profit				201.300
F	Work Unit Cost (D+E)				1.543.300
					372.700.522

100 kg of reinforcing with Threaded steel (slab) 3rd floor

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,7	93.000	65.100
2	Steel worker	OH	0,7	105.000	73.500
3	Headman	OH	0,07	115.000	8.050
4	Foreman	OH	0,07	120.000	8.400
			Total Workers		155.050

B	MATERIAL				
1	Threades steel	kg	105	10.400	1.092.000
2	Bend wire	kg	1,5	25.800	38.700
			Total Material		1.130.700
C	TOOLS				
1	Cutting reinforcement	kg	0,75	75.000	56.250
			Total Tools		
D	Total (A+B+C)				1.342.000
E	Overhead and Profit				201.300
F	Work Unit Cost (D+E)				1.543.300
					400.326.800

100 kg of reinforcing with Threaded steel (slab) 4th floor

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,7	93.000	65.100
2	Steel worker	OH	0,7	105.000	73.500
3	Headman	OH	0,07	115.000	8.050
4	Foreman	OH	0,07	120.000	8.400
			Total Workers		155.050
B	MATERIAL				
1	Threades steel	kg	105	10.400	1.092.000
2	Bend wire	kg	1,5	25.800	38.700
			Total Material		1.130.700
C	TOOLS				
1	Cutting reinforcement	kg	0,75	75.000	56.250
			Total Tools		
D	Total (A+B+C)				1.342.000
E	Overhead and Profit				201.300
F	Work Unit Cost (D+E)				1.543.300
					45.672.116

10 kg of reinforcing with Threaded steel (Beam)

No	Desc	Unit	Coef	Unit Cost	Total Price
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A	WORKERS				
1	Workers	OH	0,07	93.000	6.510
2	Steel worker	OH	0,07	105.000	7.350
3	Headman	OH	0,007	115.000	805
4	Foreman	OH	0,004	120.000	480
				Total Workers	15.145
B	MATERIAL				
1	Threades steel	kg	10,5	10.400	109.200
2	Bend wire	kg	1,05	25.800	27.090
				Total Material	136.290
C	TOOLS				
1	Cutting reinforcement	kg	0,02	75.000	1.500
				Total Tools	
D	Total (A+B+C)				152.935
E	Overhead and Profit				22.940
F	Work Unit Cost (D+E)				175.875

10 kg of reinforcing with Threaded steel (Column)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,07	93.000	6.510
2	Steel worker	OH	0,07	105.000	7.350
3	Headman	OH	0,007	115.000	805
4	Foreman	OH	0,004	120.000	480
				Total Workers	15.145
B	MATERIAL				
1	Threades steel	kg	10,5	10.400	109.200
2	Bend wire	kg	0,15	25.800	3.870
				Total Material	113.070
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				128.215
E	Overhead and Profit				19.232

F	Work Unit Cost (D+E)		147.447
			-

10 kg of reinforcing with Threaded steel (Stairs)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,07	93.000	6.510
2	Steel worker	OH	0,07	105.000	7.350
3	Headman	OH	0,007	115.000	805
4	Foreman	OH	0,004	120.000	480
				Total Workers	15.145
B	MATERIAL				
1	Threades steel	kg	10,5	10.400	109.200
2	Bend wire	kg	0,15	25.800	3.870
				Total Material	113.070
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				128.215
E	Overhead and Profit				19.232
F	Work Unit Cost (D+E)				147.447
					-

Lifting 100 kg reinforcement for horizontal distance of 25 m (1st floor)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Steel worker	OH	0,04	105.000	4.200
3	Foreman	OH	0,02	120.000	2.400
				Total Workers	25.200
B	MATERIAL				
				Total Material	-
C	TOOLS				
1	Crane	rent/day	0,025	21.500.000	537.500
				Total Tools	537.500

D	Total (A+B+C)		562.700
E	Overhead and Profit		84.405
F	Work Unit Cost (D+E)		647.105
			1.513.272.451

Lifting 100 kg reinforcement for horizontal distance of 25 m (2nd and upper floor)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Steel worker	OH	0,04	105.000	4.200
3	Foreman	OH	0,02	120.000	2.400
			Total Workers		25.200
B	MATERIAL				
			Total Material		-
C	TOOLS				
1	Crane	rent/day	0,025	21.500.000	537.500
			Total Tools		537.500
D	Total (A+B+C)				562.700
E	Overhead and Profit				84.405
F	Work Unit Cost (D+E)				647.105

1m3 of K350 ready mixed concrete casting with concrete pump (stairs)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	1,45	93.000	134.850
2	Stonemason	OH	0,25	104.000	26.000
3	Headman	OH	0,025	115.000	2.875
4	Foreman	OH	0,145	120.000	17.400
			Total Workers		181.125
B	MATERIAL				

1	Ready mixed	m3	1,14	910.000	1.037.400
			Total Material		1.037.400
C	TOOLS				
1	Concrete pump and conveyor	Rent/day	0,36	4.950.000	1.782.000
			Total Tools		1.782.000
D	Total (A+B+C)				3.000.525
E	Overhead and Profit				450.079
F	Work Unit Cost (D+E)				3.450.604

1kg Installation of steel profile (truss) TYPE A AND B

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,06	93.000	5.580
2	Headman of steel workers	OH	0,006	110.000	660
3	Steel worker	OH	0,06	105.000	6.300
4	Foreman	OH	0,003	120.000	360
			Total Workers		12.900
B	MATERIAL				
1	Profil 2L 50X5X5X9	kg	1,15	14.602	16.792
			Total Material		16.792
C	TOOLS				
			Total Tools		29.692
D	Total (A+B+C)				59.385
E	Overhead and Profit				8.908
F	Work Unit Cost (D+E)				68.292

1kg Installation of steel profile (truss) TYPE A AND B

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,15	93.000	13.950
2	Carpenter	OH	0,075	106.000	7.950
3	Headman	OH	0,008	115.000	920

4	Foreman	OH	0,008	120.000	960
			Total Workers		23.780
B	MATERIAL				
1	Metal Roof Tiles	m3	12	19.200	230.400
			Total Material		230.400
C	TOOLS				
			Total Tools		254.180
D	Total (A+B+C)				508.360
E	Overhead and Profit				76.254
F	Work Unit Cost (D+E)				584.614

ARCHITECHTURAL WORK

1m2 installation of hebel 10 cm with ready used-mortar

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,671	93.000	62.403
2	Stonemason	OH	0,13	104.000	13.520
3	Headman	OH	0,013	115.000	1.495
4	Foreman	OH	0,003	120.000	360
			Total Workers		77.778
B	MATERIAL				
1	Hebel 10 cm	pcs	8,4	10.800	90.720
2	Ready-mix mortar	kg	0,063	199.625	12.576
			Total Material		103.296
C	TOOLS				
1	Tools	%	10		10.330
			Total Tools		
D	Total (A+B+C)				181.074
E	Overhead and Profit				27.161
F	Work Unit Cost (D+E)				208.236

1m2 installation of hebel 10 cm with ready used-mortar

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,671	93.000	62.403
2	Stonemason	OH	0,13	104.000	13.520
3	Headman	OH	0,013	115.000	1.495
4	Foreman	OH	0,003	120.000	360
			Total Workers		77.778
B	MATERIAL				
1	Hebel 10 cm	pcs	0,084	10.800	907
2	Ready-mix mortar	kg	0,063	199.625	12.576
			Total Material		13.484

C	TOOLS				
1	Tools	%	10		1.348
			Total Tools		
D	Total (A+B+C)				91.262
E	Overhead and Profit				13.689
F	Work Unit Cost (D+E)				104.951

1m2 installation of hebel 10 cm with ready used-mortar

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,671	93.000	62.403
2	Stonemason	OH	0,13	104.000	13.520
3	Headman	OH	0,013	115.000	1.495
4	Foreman	OH	0,003	120.000	360
			Total Workers		77.778
B	MATERIAL				
1	Hebel 10 cm	pcs	8,4	10.800	90.720
2	Ready-mix mortar	kg	0,063	199.625	12.576
			Total Material		103.296
C	TOOLS				
1	Tools	%	10		10.330
			Total Tools		
D	Total (A+B+C)				181.074
E	Overhead and Profit				27.161
F	Work Unit Cost (D+E)				208.236

Toilet wall plastering with mortar (1SP:2PP)

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93.000	27.900
2	Stonemason	OH	0,15	104.000	15.600
3	Headman	OH	0,015	115.000	1.725
4	Foreman	OH	0,015	120.000	1.800
			Total Workers		47.025

B	MATERIAL				
1	Portland Cement	Kg	10,224	1.175	12.013
2	Tidal sand	m3	0,02	275.000	5.500
			Total Material		17.513
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				64.538
E	Overhead and Profit				9.681
F	Work Unit Cost (D+E)				74.219

Functional wall plastering with mortar (1SP:5PP) 1.5 cm thickness

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,3	93.000	27.900
2	Stonemason	OH	0,15	104.000	15.600
3	Headman	OH	0,015	115.000	1.725
4	Foreman	OH	0,015	120.000	1.800
			Total Workers		47.025
B	MATERIAL				
1	Portland Cement	Kg	5,184	1.175	6.091
2	Tidal sand	m3	0,026	275.000	7.150
			Total Material		13.241
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				60.266
E	Overhead and Profit				9.040
F	Work Unit Cost (D+E)				69.306

Scorning plastering (1SP:3PP) 1 cm thickness

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				

1	Workers	OH	0,08	93.000	7.440
2	Stonemason	OH	0,4	104.000	41.600
3	Headman	OH	0,04	115.000	4.600
4	Foreman	OH	0,004	120.000	480
				Total Workers	54.120
B	MATERIAL				
1	Portland Cement	Kg	0,5	1.175	588
2	Tidal sand	m3	0,013	275.000	3.575
				Total Material	4.163
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				58.283
E	Overhead and Profit				8.742
F	Work Unit Cost (D+E)				67.025

Installation of 1m2 of Phenolic Cubicle Toilet of 1.2 cm

<https://www.frantincocubicle.com/phenolic-cubicle-toilet-compact-board-toilet/>

1 m2 of Lean concrete with mortar (1SP:4PB) thickness 5 cm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	Stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
				Total Workers	29.235
B	MATERIAL				
1	Portland Cement	Kg	11,5	1.175	13.513
2	Concrete sand	m3	44,65	157	7.010
3	Gravel	Kg	51,35	79.000	4.056.650
				Total Material	4.077.173
C	TOOLS				

			Total Tools	
D	Total (A+B+C)			4.106.408
E	Overhead and Profit			615.961
F	Work Unit Cost (D+E)			4.722.369

1 m2 of gypsum board, 9 mm thickness

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,1	93.000	9.300
2	Carpenter	OH	0,05	106.000	5.300
3	Headman of carpenter	OH	0,005	115.000	575
4	Foreman	OH	0,005	120.000	600
			Total Workers		15.775
B	MATERIAL				
1	Gypsum board	Lbr	0,364	78.100	28.428
2	Paku skrup	kg	0,11	47.250	5.198
			Total Material		33.626
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				49.401
E	Overhead and Profit				7.410
F	Work Unit Cost (D+E)				56.811

1 m' of gypsum board, 9 mm thickness, hollow 40x40 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,24	93.000	22.320
2	Carpenter	OH	0,37	106.000	39.220
3	Headman of carpenter	OH	0,037	115.000	4.255
4	Foreman	OH	0,012	120.000	1.440
			Total Workers		67.235
B	MATERIAL				
1	Hollow 4x4 cm	m3	0,013	36.667	477

2	Gypsum board 9 mm	lbr	0,36	66.500	23.940
3	Gypsum gauze	toll	0,05	16.800	840
4	Cornice gypsum	kg	0,45	55.250	24.863
5	Alkasite	kg	0,003	14.675	44
6	Paku skrup	kg	0,05	47.250	2.363
7	Hanging wire	kg	0,12	28.350	3.402
			Total Material		55.928
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				123.163
E	Overhead and Profit				18.474
F	Work Unit Cost (D+E)				141.637

1 m' of gypsum board, 9 mm thickness, hollow 40x40 mm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,24	93.000	22.320
2	Carpenter	OH	0,37	106.000	39.220
3	Headman of carpenter	OH	0,037	115.000	4.255
4	Foreman	OH	0,012	120.000	1.440
			Total Workers		67.235
B	MATERIAL				
1	Hollow 4x4 cm	m'	0,013	36.667	477
2	Gypsum board 9 mm	lbr	0,36	66.500	23.940
3	Gypsum gauze	toll	0,05	16.800	840
4	Cornice gypsum	kg	0,45	55.250	24.863
5	Alkasite	kg	0,003	14.675	44
6	Paku skrup	kg	0,05	47.250	2.363
7	Hanging wire	kg	0,12	28.350	3.402
			Total Material		55.928
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				123.163
E	Overhead and Profit				18.474

F	Work Unit Cost (D+E)				141.637
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1 m3 of gypsum board, 9 mm thickness, lambersering 1,1x8x100 cm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,24	93.000	22.320
2	Carpenter	OH	0,37	106.000	39.220
3	Headman of carpenter	OH	0,037	115.000	4.255
4	Foreman	OH	0,012	120.000	1.440
			Total Workers		67.235
B	MATERIAL				
1	Kruing Wood Lambersering	m3	0,013	9.847.500	128.018
2	Gypsum board 9 mm	lbr	0,36	66.500	23.940
3	Gypsum gauze	toll	0,05	16.800	840
4	Cornice gypsum	kg	0,45	55.250	24.863
5	Alkasite	kg	0,003	14.675	44
6	Paku skrup	kg	0,05	47.250	2.363
7	Paku usuk	kg	0,12	31.500	3.780
			Total Material		183.847
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				251.082
E	Overhead and Profit				37.662
F	Work Unit Cost (D+E)				288.744

PINTU (HARGA SATUAN PER Portland Cements)

Installation of 1 Pcs of door hinge

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,015	93.000	1.395
2	carpenter	OH	0,15	106.000	15.900
3	Headman	OH	0,015	115.000	1.725

4	Foreman	OH	0,0008	120.000	96
			Total Workers		19.116
B	MATERIAL				
1	Hinge	m	1	7.200	7.200
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				26.316
E	Overhead and Profit				3.947
F	Work Unit Cost (D+E)				30.263

Installation of 1 Pcs of door holder

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,05	93.000	4.650
2	Carpenter	OH	0,5	106.000	53.000
3	Headman	OH	0,005	115.000	575
4	Foreman	OH	0,003	120.000	360
			Total Workers		58.585
B	MATERIAL				
1	Holder	m	1	85.000	85.000
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				143.585
E	Overhead and Profit				21.538
F	Work Unit Cost (D+E)				165.123

Installation of 1m2 tempered glass door with aluminium frame

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,085	93.000	7.905
2	Glass workers	OH	0,085	106.000	9.010
3	Headman	OH	0,009	115.000	1.035
4	Foreman	OH	0,005	120.000	600
			Total Workers		18.550

B	MATERIAL				
1	Aluminium frame	m	4,4	224.500	987.800
2	Glass	m	4,5	800.000	3.600.000
3	Sealant	Tube	0,27	23.000	6.210
			Total Material		4.594.010
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				4.612.560
E	Overhead and Profit				691.884
F	Work Unit Cost (D+E)				5.304.444

Pintu P2 23.618.248

Pintu P7 37.287.800

Installation of 1m2 tempered glass door

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,085	93.000	7.905
2	Glass workers	OH	0,085	106.000	9.010
3	Headman	OH	0,009	115.000	1.035
4	Foreman	OH	0,005	120.000	600
			Total Workers		18.550
B	MATERIAL				
1	Aluminium frame	m	4,4	224.500	987.800
2	Glass	m	4,5	800.000	3.600.000
			Total Material		4.587.800
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				4.606.350
E	Overhead and Profit				690.953
F	Work Unit Cost (D+E)				5.297.303

Pintu P6

26.937.812

Installation of 1m2 class I wooden door

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,8	93.000	74.400
2	Carpenter	OH	2,4	106.000	254.400
3	Headman	OH	0,24	115.000	27.600
4	Foreman	OH	0,04	120.000	4.800
			Total Workers		361.200
B	MATERIAL				
1	Wood Class I	m3	0,024	3.958.333	95.000
2	Glue for wood	kg	0,3	22.500	6.750
			Total Material		101.750
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				462.950
E	Overhead and Profit				69.442
F	Work Unit Cost (D+E)				532.392

Installation of 1m2 class I wooden frame

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,67	93.000	62.310
2	Carpenter	OH	2	106.000	212.000
3	Headman	OH	0,2	115.000	23.000
4	Foreman	OH	0,035	120.000	4.200
			Total Workers		301.510
B	MATERIAL				
1	Wood Class I	m3	0,06	3.958.333	237.500
2	Nail 1-2.5 cm	kg	0,15	17.000	2.550
			Total Material		240.050
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				541.560
E	Overhead and Profit				81.234

F	Work Unit Cost (D+E)		622.794
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P1	2.865.239
P4	1.902.815
P5	1.361.486

JENDELA (Harga per Portland Cements)

J1	Window Glass Tempered	109.449.823
JP	Pivot Window	109.574.891
J2	Wood Framed Window	12.127.271
JB	Boven Window	855.182

FINISHING

1m2 of wall finishing

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
				Total Workers	29.235
B	MATERIAL				
1	Mortar MU 200	kg	3,25	199.625	648.781
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				678.016
E	Overhead and Profit				101.702
F	Work Unit Cost (D+E)				779.719

Installation of 1m2 Ceramic 60x60 cm Platinum-Santiago Dark Grey

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
			Total Workers		29.235
B	MATERIAL				
1	Ceramic 60x60 cm Platinum Santiago Dark Grey	pcs	6,25	69.840	436.500
2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
			Total Workers		460.625
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				489.860
E	Overhead and Profit				73.479
F	Work Unit Cost (D+E)				563.339

Installation of 1m2 Key tiles 20x20 cm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
			Total Workers		29.235
B	MATERIAL				
1	Key tiles 20x20 cm	pcs	6,25	55.000	343.750
2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
			Total Workers		367.875
C	TOOLS				

			Total Tools	
D	Total (A+B+C)			397.110
E	Overhead and Profit			59.567
F	Work Unit Cost (D+E)			456.677

Installation of 1m2 Vinyl floor wood laminated 1.5x30x100 cm

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
			Total Workers		29.235
B	MATERIAL				
1	Vynil floor wood laminated 1.5x30x100	pcs	6,25	61.900	386.875
2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
			Total Workers		411.000
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				440.235
E	Overhead and Profit				66.035
F	Work Unit Cost (D+E)				506.270

Installation of 1m2 Ceramic 20x20 cm Asia-Tile

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
			Total Workers		29.235
B	MATERIAL				
1	Ceramic 20x20 cm Asia-Tile	pcs	6,25	69.840	436.500

2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
			Total Workers		460.625
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				489.860
E	Overhead and Profit				73.479
F	Work Unit Cost (D+E)				563.339

Installation of 1m2 Ceramic 40x40 cm Platinum-Amazon Brown

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600
2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
			Total Workers		29.235
B	MATERIAL				
1	Ceramic 40x40 cm Platinum-Amazon Brown	pcs	6,25	65.000	406.250
2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
			Total Workers		430.375
C	TOOLS				
			Total Tools		
D	Total (A+B+C)				459.610
E	Overhead and Profit				68.942
F	Work Unit Cost (D+E)				528.552

Installation of 1m2 Ceramic 40x40 cm Platinum-Asturo Grey

No	Desc	Unit	Coef	Unit Cost	Total Price
A	WORKERS				
1	Workers	OH	0,2	93.000	18.600

2	stonemason	OH	0,1	104.000	10.400
3	Headman	OH	0,001	115.000	115
4	Foreman	OH	0,001	120.000	120
				Total Workers	29.235
B	MATERIAL				
1	Ceramic 40x40 cm Platinum-Asturo Grey	pcs	6,25	69.840	436.500
2	Portland Cement	kg	10	1.175	11.750
3	Tidal sand	m3	0,045	275.000	12.375
				Total Workers	460.625
C	TOOLS				
				Total Tools	
D	Total (A+B+C)				489.860
E	Overhead and Profit				73.479
F	Work Unit Cost (D+E)				563.339

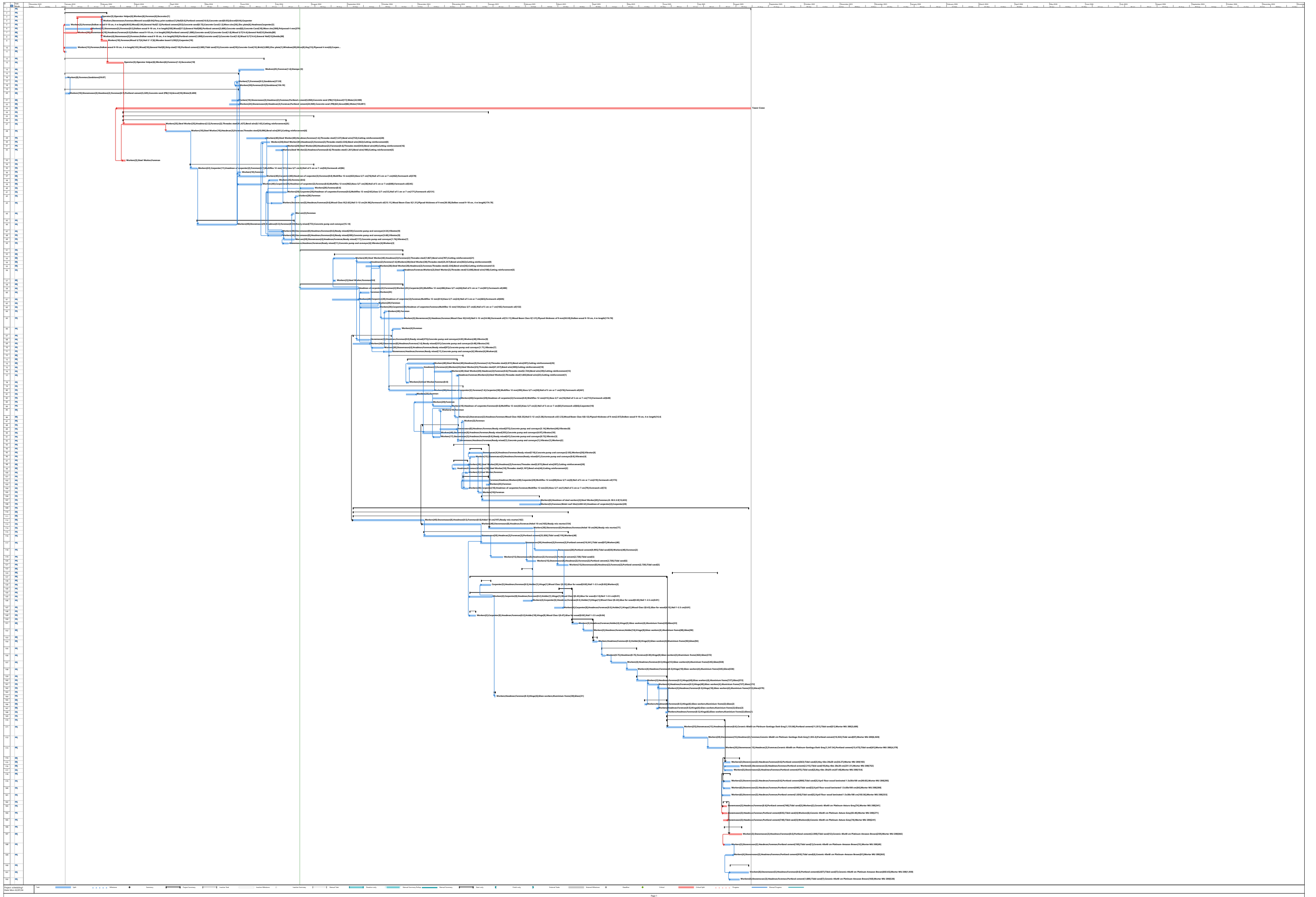
BILL OF QUANTITY (BoQ)

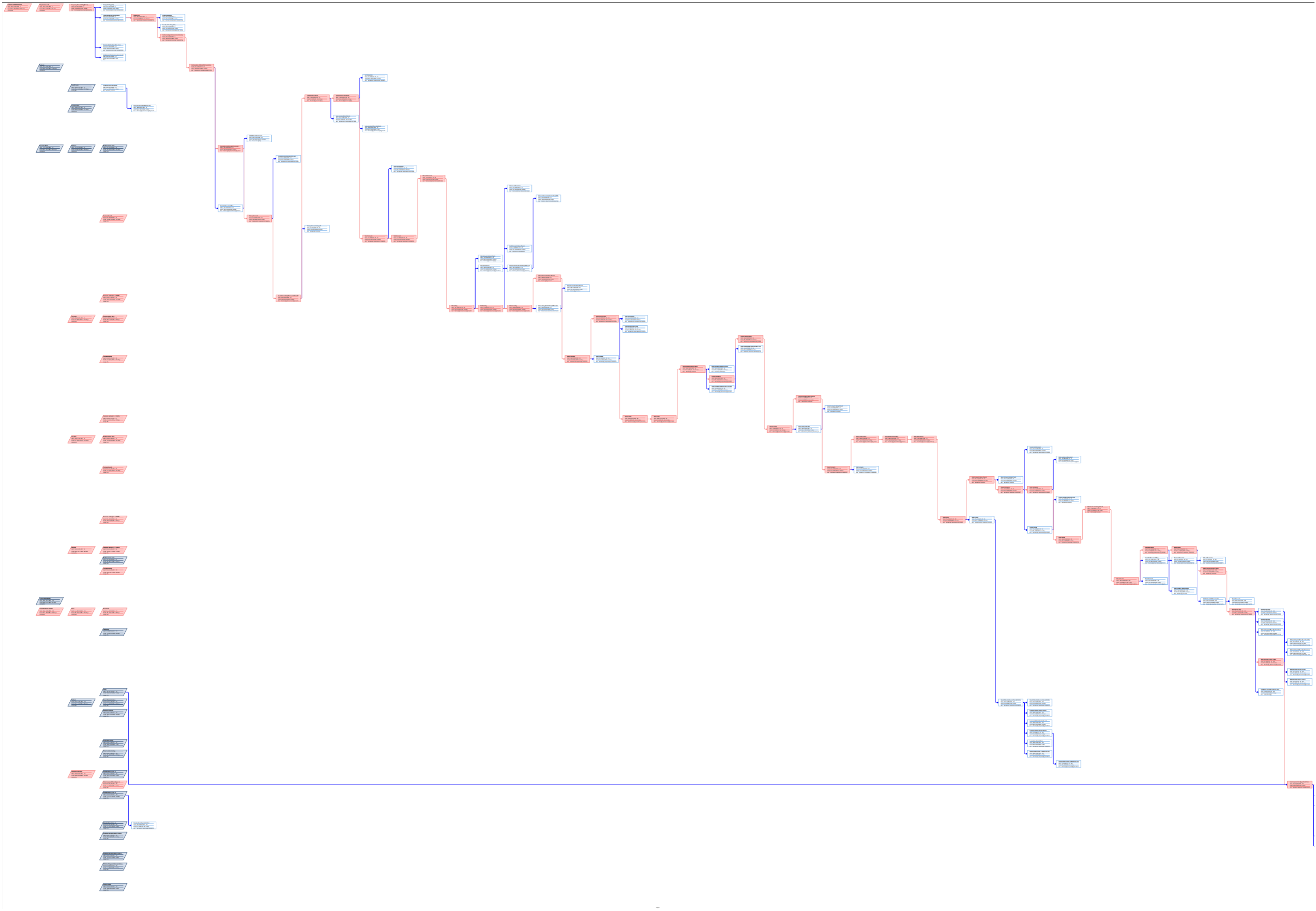
No	Activity					Total Price
I	Preparation work					Rp 803,227,633
1.1	Clearing site	2,269.9	m ²	Rp 55,999	Rp	127,111,037
1.2	Project name plate	1.00	pcs	Rp 534,266	Rp	534,266
1.3	Storage building (4x6)	24.00	m ²	Rp 1,269,881	Rp	30,477,154
1.4	Temporary worker's bunk (20x10)	200.00	m ²	Rp 1,296,566	Rp	259,313,146
1.5	Temporary fence building (h=2 m)	726.75	m ²	Rp 247,484	Rp	179,859,044
1.6	Security site building (2x2)	4.00	m ²	Rp 1,258,784	Rp	5,035,136
1.7	Land surveying and measurement by Bowplank	323.00	m ¹	Rp 81,415	Rp	26,297,204
1.8	Direction Keet building (20 m x 5 m)	100.00	m ²	Rp 1,546,006	Rp	154,600,647
1.9	Installement of temporary water and electricity	1.00	Ls	Rp 20,000,000	Rp	20,000,000
II	Soilwork					Rp 376,753,645
2.1	Soil Excavation of Bored Pile Foundation	756.73	m ³	Rp 13,626	Rp	10,311,344
2.2	Soil Compaction	794.46	m ³	Rp 74,463	Rp	59,157,199
2.3	Landfill work					
2.3.1	Landfill of Foundation (Sand)	48.45	m ³	Rp 228,045	Rp	11,048,270
2.3.2	Landfill of Sloof (Sand)	114.94	m ³	Rp 228,045	Rp	26,212,347
2.3.3	Landfill of Floor Slab (Sand)	794.46	m ³	Rp 228,045	Rp	181,171,776
2.4	Lean Concrete					
2.4.1	Lean concrete of foundation (5 cm)	24.22	m ³	Rp 552,888	Rp	13,393,105
2.4.2	Lean concrete of sloof (5 cm)	22.99	m ³	Rp 552,888	Rp	12,710,215
2.4.3	Lean concrete of floor slab (5 cm)	113.49	m ³	Rp 552,888	Rp	62,749,389
III	Concrete Work					Rp 12,981,898,122
A	1st Floor					Rp 5,435,374,306
A.1	Concrete casting f'c = 30 MPa					Rp 1,719,675,840
A.1.1	Foundation casting (Pile)			Rp 1,259,198		
	TYPE 1	0.77	m ³		Rp	969,193
	TYPE 2	19.09	m ³		Rp	24,032,019
	TYPE 3	143.14	m ³		Rp	180,240,146
	TYPE 4	91.61	m ³		Rp	115,353,693
	TYPE 5	114.51	m ³		Rp	144,192,117
	TYPE 6	68.71	m ³		Rp	86,515,270
A.1.2	Foundation casting (Pile cap)					
	TYPE 1	5.83	m ³		Rp	7,343,644
	TYPE 2	23.01	m ³		Rp	28,967,977
	TYPE 3	109.35	m ³		Rp	137,693,329
	TYPE 4	80.64	m ³		Rp	101,541,747
	TYPE 5	80.64	m ³		Rp	101,541,747
	TYPE 6	19.44	m ³		Rp	24,478,814
A.1.3	Sloof casting	227.11	m ³	Rp 1,442,290	Rp	285,971,006
A.1.4	Slab casting	283.73	m ³	Rp 1,272,860	Rp	357,277,828
A.1.5	Column casting	88.08	m ³	Rp 1,442,290	Rp	110,910,182
A.1.6	Stairs casting (1st-2nd Floor) TYPE A	2.02	m ³	Rp 1,442,290	Rp	2,539,112
A.1.7	Stairs Landing Slab casting (1st-2nd Floor) TYPE A	0.93	m ³	Rp 1,442,290	Rp	1,171,054
A.1.8	Stairs Landing beam casting (1st-2nd Floor) TYPE A	0.68	m ³	Rp 1,442,290	Rp	849,959
A.1.9	Stairs casting (1st-2nd Floor) TYPE B	6.42	m ³	Rp 1,442,290	Rp	8,087,003
A.2	Reinforcement work					Rp 2,590,973,916
A.2.1	Foundation reinforcement					
A.2.2	Foundation reinforcement (Pile)			Rp 175,875		
	TYPE 1	874.34	kg		Rp	1,537,748
	TYPE 2	5,469.15	kg		Rp	9,618,879
	TYPE 3	31,085.06	kg		Rp	54,670,919
	TYPE 4	16,739.07	kg		Rp	29,439,881
	TYPE 5	18,557.31	kg		Rp	32,637,721
	TYPE 6	14,348.07	kg		Rp	25,234,713
A.2.3	Foundation reinforcement (Pile cap)					
	TYPE 1	295.46	kg		Rp	519,649
	TYPE 2	1,159.13	kg		Rp	2,038,623
	TYPE 3	5,150.08	kg		Rp	9,057,723
	TYPE 4	6,091.11	kg		Rp	10,712,763
	TYPE 5	4,295.60	kg		Rp	7,554,897
	TYPE 6	2,147.80	kg		Rp	3,777,448
A.2.4	Sloof reinforcement	71,688.21	kg	Rp 152,581	Rp	1,093,824,729
A.2.5	Slab reinforcement	21,818.49	kg	Rp 146,112	Rp	323,363,710
A.2.6	Column reinforcement	32,933.18	kg	Rp 147,447	Rp	481,193,644
A.2.7	Stairs reinforcement (1st-2nd Floor) TYPE A	235.41	kg	Rp 147,447	Rp	3,471,078
A.2.8	Stairs Landing Slab reinforcement (1st-2nd Floor) TYPE A	172.66	kg		Rp	25,457,749
A.2.9	Stairs Landing beam reinforcement (1st-2nd Floor) TYPE A	126.72	kg		Rp	18,684,046

A.2.10	Stairs reinforcement (1st-2nd Floor) TYPE	665.83	kg		Rp	98,174,667	
A.2.11	Steel Reinforcement lifting	233,852.69	kg	Rp	1,539	Rp	360,003,328
A.3	Formwork work					Rp	1,124,724,551
A.3.1	Pile cap formwork			Rp	495,357		
	TYPE 1	8.64	m ²			Rp	4,279,887
	TYPE 2	32.40	m ²			Rp	16,049,577
	TYPE 3	162.00	m ²			Rp	80,247,887
	TYPE 4	77.76	m ²			Rp	38,518,986
	TYPE 5	97.92	m ²			Rp	48,505,389
	TYPE 6	48.96	m ²			Rp	24,252,695
	Pile cap formwork taking off	427.68	m ²	Rp	7,245	Rp	3,098,542
A.3.2	Sloof formwork	1,848.70	m ²	Rp	227,970	Rp	421,447,538
A.3.3	Sloof formwork taking off work	1,848.70	m ²	Rp	7,245	Rp	13,393,832
A.3.4	Slab formwork	2,725.81	m ²	Rp	119,796	Rp	326,540,071
A.3.5	Slab formwork taking off work	2,725.81	m ²	Rp	7,245	Rp	19,748,512
A.3.6	Column formwork	685.54	m ²	Rp	174,146	Rp	119,383,507
A.3.7	Column formwork taking off work	685.54	m ²	Rp	7,245	Rp	4,966,708
A.3.8	Stairs Formwork (1st-2nd Floor) TYPE A	17.74	m ²	Rp	41,861	Rp	742,628
A.3.9	Stairs Landing Slab Formwork (1st-2nd Floor) TYPE A	9.25	m ²	Rp	41,861	Rp	387,217
A.3.10	Stairs Landing beam Formwork (1st-2nd Floor) TYPE A	6.90	m ²	Rp	41,861	Rp	288,843
A.3.11	Stairs Formwork (1st-2nd Floor) TYPE B	53.50	m ²	Rp	41,861	Rp	2,239,590
A.3.12	Stairs Formwork taking off work	87.39	m ³	Rp	7,245	Rp	633,144
B	2nd Floor					Rp	3,476,837,489
B.1	Concrete casting f'c = 30 MPa					Rp	898,649,663
B.1.1	Beam casting	241.65	m ³	Rp	1,442,290	Rp	348,529,769
B.1.2	Slab casting	324.41	m ³	Rp	1,272,860	Rp	412,923,820
B.1.3	Column casting	85.08	m ³	Rp	1,442,290	Rp	122,710,012
B.1.4	Stairs casting (2nd-3rd Floor) TYPE A	2.02	m ³	Rp	1,442,290	Rp	2,908,307
B.1.5	Stairs Landing Slab casting (2nd-3rd Floor) TYPE A	0.93	m ³	Rp	1,442,290	Rp	1,341,329
B.1.6	Stairs Landing beam casting (2nd-3rd Floor) TYPE A	0.68	m ³	Rp	1,442,290	Rp	973,546
B.1.7	Stairs casting (2nd-3rd Floor) TYPE C	6.42	m ³	Rp	1,442,290	Rp	9,262,879
B.2	Reinforcement work					Rp	1,831,352,653
B.2.1	Beam reinforcement	74,921.59	kg	Rp	152,581	Rp	1,143,159,999
B.2.2	Slab reinforcement	24,149.58	kg	Rp	15,433	Rp	3,727,005
B.2.3	Column Reinforcement	31,726.27	kg	Rp	146,112	Rp	463,559,189
B.2.4	Stairs reinforcement (2nd-3rd Floor) TYPE	235.41	kg	Rp	147,447	Rp	3,471,078
B.2.5	Stairs Landing Slab reinforcement (2nd-3rd Floor) TYPE A	172.66	kg			Rp	2,545,775
B.2.6	Stairs Landing beam reinforcement (2nd-3rd Floor) TYPE A	126.72	kg			Rp	1,868,405
B.2.7	Stairs reinforcement (2nd-3rd Floor) TYPE	665.83	kg			Rp	9,817,467
B.2.8	Steel Reinforcement lifting	131,998.06	kg	Rp	1,539	Rp	203,203,735
B.3	Formwork work					Rp	746,835,173
B.3.1	Beam formwork	2,002.10	m ²	Rp	172,659	Rp	345,681,134
B.3.2	Beam formwork taking off work	2,002.10	m ²	Rp	7,245	Rp	14,505,215
B.3.3	Slab formwork	3,024.47	m ²	Rp	87,559	Rp	264,818,552
B.3.4	Slab formwork taking off work	3,024.47	m ²	Rp	7,245	Rp	21,912,276
B.3.5	Column formwork	658.09	m ²	Rp	138,064	Rp	90,858,699
B.3.6	Column formwork taking off work	658.09	m ²	Rp	7,245	Rp	4,767,877
B.3.7	Stairs formwork (2nd-3rd Floor) TYPE A	17.74	m ²	Rp	41,861	Rp	742,628
B.3.8	Stairs Landing Slab formwork (2nd-3rd Floor) TYPE A	9.25	m ²	Rp	41,861	Rp	387,217
B.3.9	Stairs Landing beam formwork (2nd-3rd Floor) TYPE A	6.90	m ²	Rp	41,861	Rp	288,843
B.3.10	Stairs formwork (2nd-3rd Floor) TYPE C	53.50	m ²	Rp	41,861	Rp	2,239,590
B.3.11	Stairs Formwork taking off work	87.39	m ²	Rp	7,245	Rp	633,144
C	3rd Floor					Rp	3,262,269,504
C.1	Concrete casting f'c = 30 MPa					Rp	867,157,475
C.1.1	Beam casting	256.94	m ³	Rp	1,442,290	Rp	370,583,506
C.1.2	Slab casting	348.41	m ³	Rp	1,272,860	Rp	443,472,466
C.1.3	Column casting	36.00	m ³	Rp	1,442,290	Rp	51,922,431
C.1.4	Stairs Landing casting	0.48	m ³	Rp	1,442,290	Rp	692,299
C.1.5	Stairs landing beam casting	0.34	m ³			Rp	486,773
C.2	Reinforcement work					Rp	1,682,566,163
C.2.1	Beam reinforcement	86,870.44	kg	Rp	152,581	Rp	1,325,476,495
C.2.2	Slab reinforcement	25,939.66	kg	Rp	15,433	Rp	4,003,268
C.2.3	Column Reinforcement	10,955.44	kg	Rp	146,112	Rp	160,072,290
C.2.4	Stairs Landing reinforcement	89.18	kg	Rp	147,447	Rp	1,314,861
C.2.5	Stairs landing beam reinforcement	63.36	kg			Rp	934,202
C.2.6	Steel Reinforcement lifting	123,918.07	kg	Rp	1,539	Rp	190,765,047

C.3	Formwork work					Rp	712,545,865
C.3.1	Beam formwork	2,303.56	m ²	Rp	172,659	Rp	397,731,431
C.3.2	Beam formwork taking off work	2,303.56	m ²	Rp	7,245	Rp	16,689,310
C.3.3	Slab formwork	3,243.00	m ²	Rp	71,440	Rp	231,680,893
C.3.4	Slab formwork taking off work	3,243.00	m ²	Rp	7,245	Rp	23,495,535
C.3.5	Column formwork	329.33	m ²	Rp	121,945	Rp	40,160,043
C.3.6	Column formwork taking off work	329.33	m ²	Rp	7,245	Rp	2,385,981
C.3.7	Stairs Landing formwork	4.75	m ²	Rp	41,861	Rp	198,841
C.3.8	Stairs landing beam formwork	3.45	m ²	Rp	41,861	Rp	144,421
C.3.9	Stairs Formwork taking off work	8.20	m ²	Rp	7,245	Rp	59,409
D	Roof top					Rp	807,416,823
D.1	Concrete casting f'c = 30 MPa					Rp	197,162,591
D.1.1	Beam casting	101.40	m ³	Rp	1,442,290	Rp	146,248,181
D.1.2	Deck Slab casting	40.00	m ³	Rp	1,272,860	Rp	50,914,410
D.2	Reinforcement work					Rp	464,674,631
D.2.1	Beam reinforcement	27,364.86	kg	Rp	152,581	Rp	417,535,408
D.2.2	Slab reinforcement	2,959.38	kg	Rp	15,433	Rp	456,721
	Steel Reinforcement lifting	30,324.24	kg	Rp	1,539	Rp	46,682,502
D.3	Formwork work					Rp	145,579,602
D.3.1	Beam formwork	876.00	m ²	Rp	130,284	Rp	114,128,850
D.3.2	Beam formwork taking off work	876.00	m ²	Rp	7,245	Rp	6,346,620
D.3.3	Slab formwork	360.00	m ²	Rp	62,489	Rp	22,495,932
D.3.4	Slab formwork taking off work	360.00	m ²	Rp	7,245	Rp	2,608,200
IV	Steel Roof					Rp	708,800,925
A.1	Roof Truss					Rp	708,800,925
E.1.1	Steel 2L 90x90x9	11,854.97	kg	Rp	34,146	Rp	404,801,645
E.1.2	Roof Closer	1,040.00	m	Rp	292,307	Rp	303,999,280
V	ARCHITECTURAL WORK					Rp	8,358,050,065
A	WALL					Rp	1,191,594,812
A.1	Brick Wall					Rp	553,735,436
A.1.1	Brick wall 1st floor	2,646.62	m ²	Rp	90,655	Rp	239,928,475
A.1.2	Brick wall 2nd floor	2,204.45	m ²			Rp	199,844,408
A.1.3	Brick wall 3rd floor	1,257.10	m ²			Rp	113,962,552
A.1	Plastering					Rp	509,549,377
A.2.1	Wall plastering 1st floor (Functional Room)	4,761.23	m ²	Rp	42,402	Rp	201,885,137
A.2.2	Wall plastering 2nd floor (Functional)	3,876.91	m ²			Rp	164,388,188
A.2.3	Wall plastering 3rd floor (Functional)	1,982.21	m ²			Rp	84,049,346
A.2.4	Wall plastering 1st floor (Toilet)	266.00	m ²	Rp	74,219	Rp	19,742,235
A.2.5	Wall plastering 2nd floor (Toilet)	266.00	m ²			Rp	19,742,235
A.2.6	Wall plastering 3rd floor (Toilet)	266.00	m ²			Rp	19,742,235
A.2	Toilet					Rp	128,310,000
A.1.13	Installation of cubicle toilet	1.00	ls			Rp	128,310,000
C	Plafond					Rp	345,470,411
C.1	Wood Plafond Hollow					Rp	45,338,319
C.1.1	mm)	53.62	m ²	Rp	141,637	Rp	7,594,581
C.1.2	mm)	266.48	m ²			Rp	37,743,738
C.2	Gypsum Plafond					Rp	228,702,394
C.2.1	Gypsum Plafond 1st floor (9 mm)	1,976.78	m ²	Rp	56,811	Rp	112,302,918
C.1.4	Gypsum Plafond 2nd floor (9 mm)	1,876.39	m ²			Rp	106,599,573
C.1.5	Gypsum Plafond 3rd floor (9 mm)	172.50	m ²			Rp	9,799,904
C.3	Suspended ceiling					Rp	141,637
C.3.1	Suspended ceiling 1st floor	3.52	m ²	Rp	141,637	Rp	498,563
C.4	Wood Lamberstrering					Rp	71,288,061
C.1.7	Wood Lamberstrering 1.1x8x100 cm (1st floor)	113.17	m ²	Rp	288,744	Rp	32,678,257
C.1.8	Wood Lamberstrering 1.1x8x100 cm (3rd floor)	133.72	m ²			Rp	38,609,804
D	Wood And Window					Rp	3,134,014,116
D.1	Wooden Door (Type 1)					Rp	5,730,479
D.1.1	Wooden Door (Type 1) 3rd Floor	2.00	pcs	Rp	2,865,239	Rp	5,730,479
D.2	Wooden Door (Type 2)					Rp	94,472,990
D.1.2	Wooden Door (Type 2) 1st Floor	1.00	pcs	Rp	23,618,248	Rp	23,618,248
D.1.3	Wooden Door (Type 2) 2nd Floor	2.00	pcs			Rp	47,236,495
D.1.4	Wooden Door (Type 2) 3rd Floor	1.00	pcs			Rp	23,618,248
D.3	Wooden Door (Type 4)					Rp	49,473,187
D.1.5	Wooden Door (Type 4) 1st Floor	18.00	pcs	Rp	1,902,815	Rp	34,250,668
D.1.6	Wooden Door (Type 4) 2nd Floor	5.00	pcs			Rp	9,514,074
D.1.7	Wooden Door (Type 4) 3rd Floor	3.00	pcs			Rp	5,708,445
D.4	Wooden Door (Type 5)					Rp	12,253,371
D.1.8	Wooden Door (Type 5) 1st Floor	9.00	pcs	Rp	1,361,486	Rp	12,253,371
D.5	Window Tempered Glass (Type 6)					Rp	134,689,058
D.1.9	Window Tempered Glass door (Type 6) 1st Floor	1.00	pcs	Rp	26,937,812	Rp	26,937,812
D.1.10	Window Tempered Glass door (Type 6) 2nd Floor	4.00	pcs			Rp	107,751,246
D.6	Window Tempered Glass (Type 7)					Rp	111,863,399

	D.1.11	Window Tempered Glass door (Type 7) 3rd Floor	3.00	pcs	Rp 37,287,800	Rp 111,863,399	
	D.7	Window Tempered Glass (window)					Rp 1,641,747,351
	D.1.12	Window Glass Tempered window 1st Floor	4.00	pcs	Rp 109,449,823	Rp 437,799,294	
	D.1.13	Window Glass Tempered window 2nd	6.00	pcs		Rp 656,698,941	
	D.1.14	Window Glass Tempered window 3rd	5.00	pcs		Rp 547,249,117	
	D.8	Pivot Window					Rp 1,039,705,829
	D.1.15	Pivot Window 1st floor	8.00	pcs	Rp 54,721,359	Rp 437,770,875	
	D.1.16	Pivot Window 2nd Floor	8.00	pcs		Rp 437,770,875	
	D.1.17	Pivot Window 3rd Floor	3.00	pcs		Rp 164,164,078	
	D.9	Wood Framed Window					Rp 36,381,814
	D.1.18	Wood Framed Window 1st Floor	3.00	pcs	Rp 12,127,271	Rp 36,381,814	
	D.10	Bowen Window					Rp 7,696,638
	D.1.19	Bowen Window 1st Floor	3.00	pcs	Rp 855,182	Rp 2,565,546	
	D.1.20	Bowen Window 2nd Floor	3.00	pcs		Rp 2,565,546	
	D.1.21	Bowen Window 3rd Floor	3.00	pcs		Rp 2,565,546	
	E	FINISHING WORK					Rp 3,686,970,726
	E.1	Ceramic 60x60 cm Platinum-Santiago Dark Grey					Rp 2,640,482,499
	E.1.1	Ceramic 60x60 cm Platinum-Santiago Dark Grey (1st floor)	1,135.06	m ²	Rp 597,705	Rp 678,430,536	
	E.1.2	Ceramic 60x60 cm Platinum-Santiago Dark Grey (2nd floor)	1,935.30	m ²		Rp 1,156,737,607	
	E.1.3	Ceramic 60x60 cm Platinum-Santiago Dark Grey (3rd floor)	1,347.34	m ²		Rp 805,314,356	
	E.2	Key Tiles					Rp 164,624,816
	E.1.4	Key tiles 20x20 cm (1 st floor)	56.27	m ²	Rp 491,043	Rp 27,629,262	
	E.1.5	Key tiles 20x20 cm (2nd floor)	231.51	m ²		Rp 113,682,066	
	E.1.6	Key tiles 20x20 cm (3rd floor)	47.48	m ²		Rp 23,313,487	
	E.3	Vynil floor wood laminated 1.5x30x100 cm					Rp 129,897,049
	E.1.7	Vynil floor wood laminated 1.5x30x100 cm (1st floor)	90.02	m ²	Rp 506,270	Rp 45,571,967	
	E.1.8	Vynil floor wood laminated 1.5x30x100 cm (2nd floor)	64.00	m ²		Rp 32,401,296	
	E.1.9	Vynil floor wood laminated 1.5x30x100 cm (3rd floor)	102.56	m ²		Rp 51,923,786	
	E.4	Ceramic 20x20 cm Asia-Tile					Rp 122,350,528
	E.1.10	Ceramic 20x20 cm Asia-Tile (1st floor)	74.00	m ²	Rp 528,552	Rp 39,112,811	
	E.1.11	Ceramic 20x20 cm Asia-Tile (2nd floor)	83.48	m ²		Rp 44,124,906	
	E.1.12	Ceramic 20x20 cm Asia-Tile (3rd floor)	74.00	m ²		Rp 39,112,811	
	E.5	Ceramic 40x40 cm Platinum-Amazon Brown					Rp 199,985,345
	E.1.13	Ceramic 40x40 cm Platinum-Amazon Brown (1st floor)	259.00	m ²	Rp 563,339	Rp 145,904,801	
	E.1.14	Ceramic 40x40 cm Platinum-Amazon Brown (2nd Floor)	15.00	m ²		Rp 8,450,085	
	E.1.15	Ceramic 40x40 cm Platinum-Amazon Brown (3rd Floor)	81.00	m ²		Rp 45,630,459	
	E.6	Ceramic 40x40 cm Platinum-Asturo Grey					Rp 429,630,488
	E.1.16	Ceramic 40x40 cm Platinum-Asturo Grey (1st floor)	602.65	m ²	Rp 563,339	Rp 339,496,248	
	E.1.17	Ceramic 40x40 cm Platinum-Asturo Grey (3rd floor)	160.00	m ²		Rp 90,134,240	
TOTAL PRICE							Rp 23,228,730,389
MS PROJECT							Rp 23,372,331,839
STANDART DEVIATION							0.618%





1. Introduction

2. Methodology

3. Results

4. Discussion

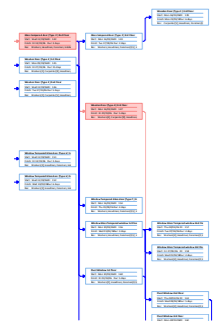
5. Conclusion

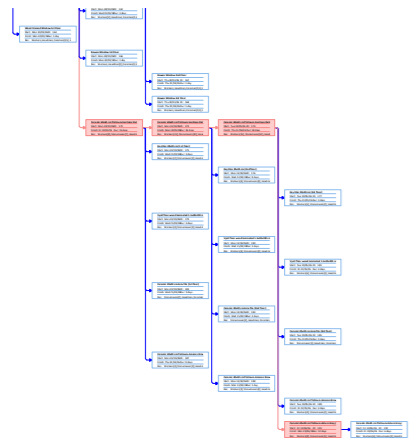
6. References

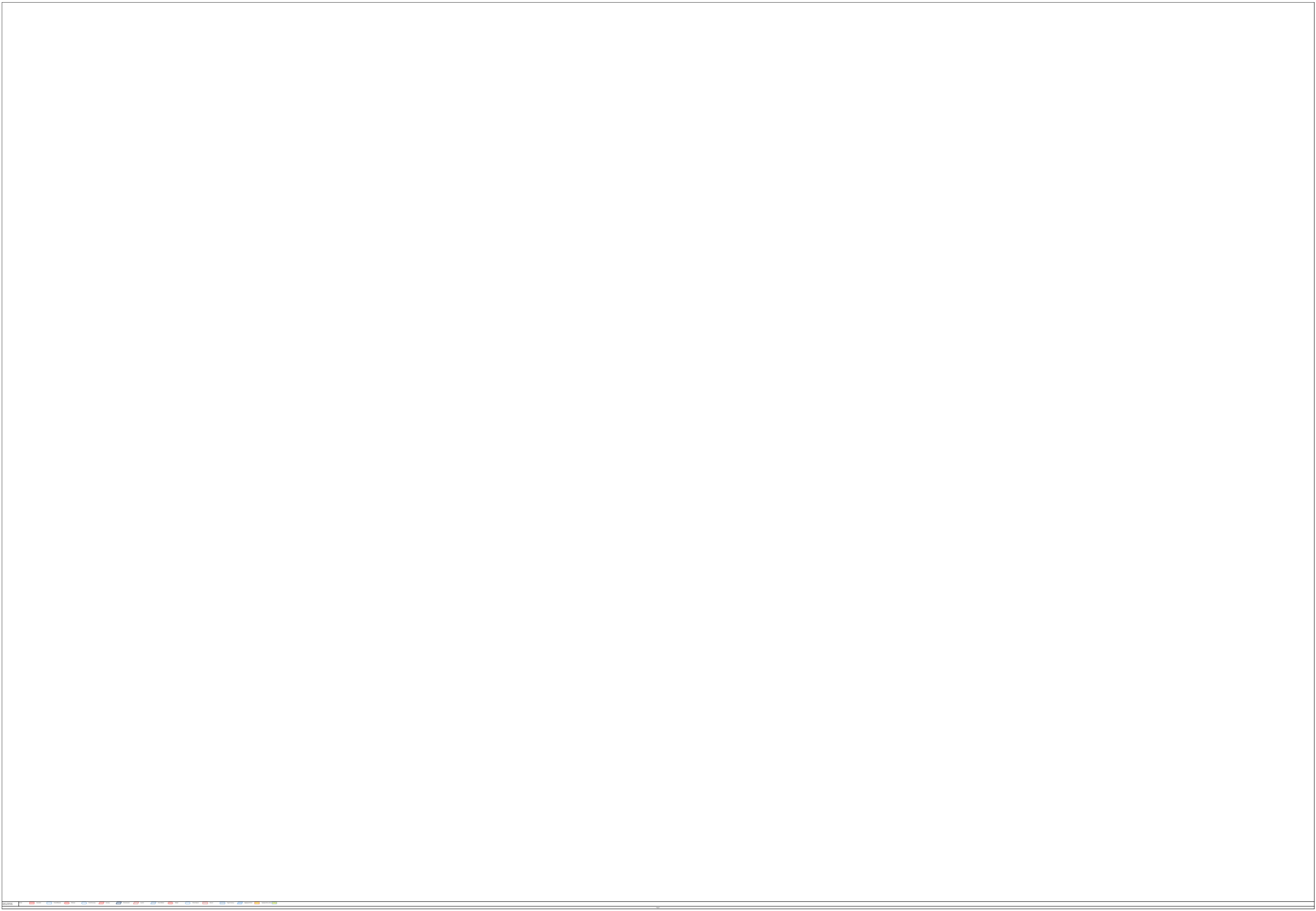
7. Appendix

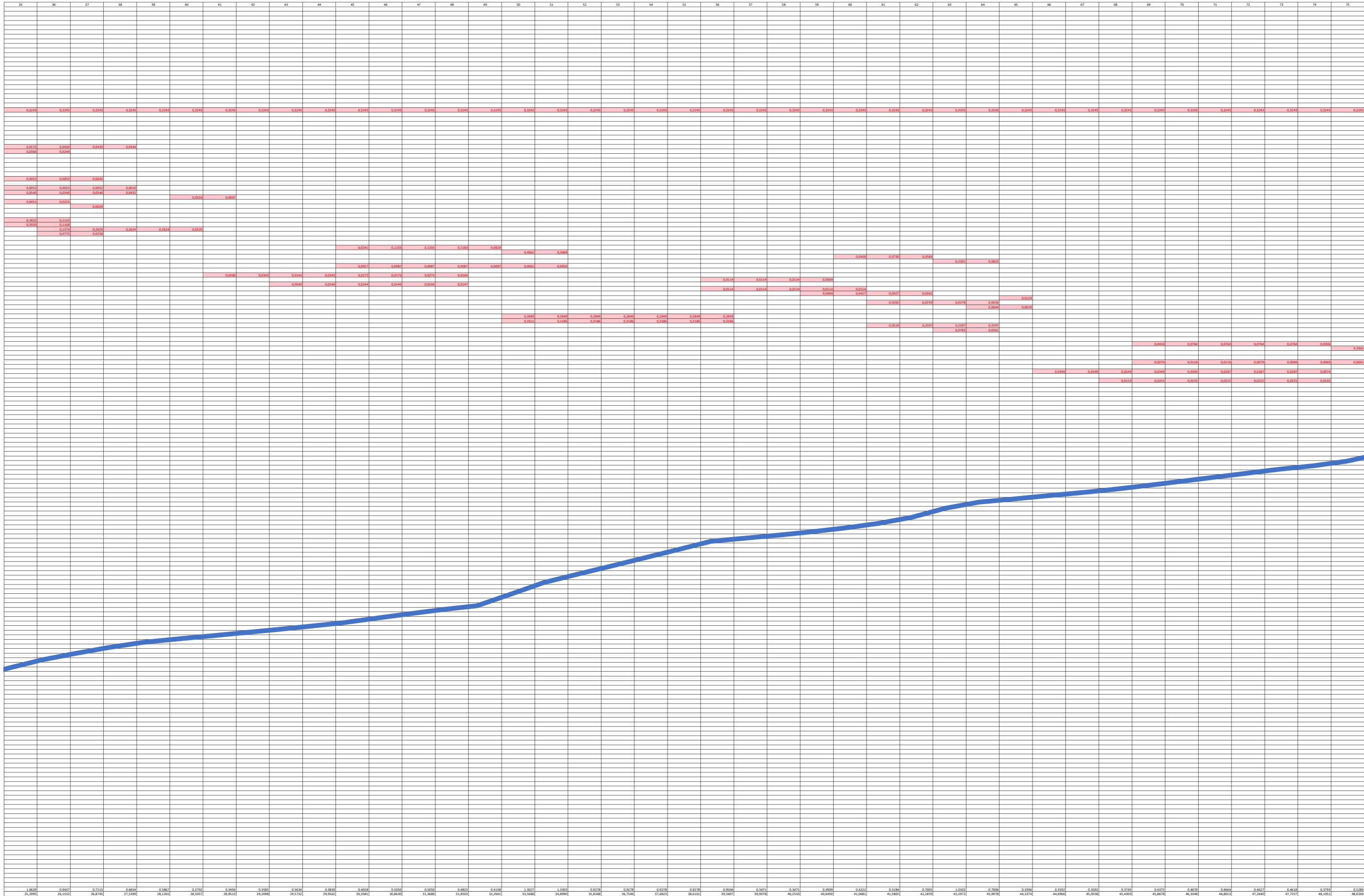
8. Acknowledgements

9. Contact Information

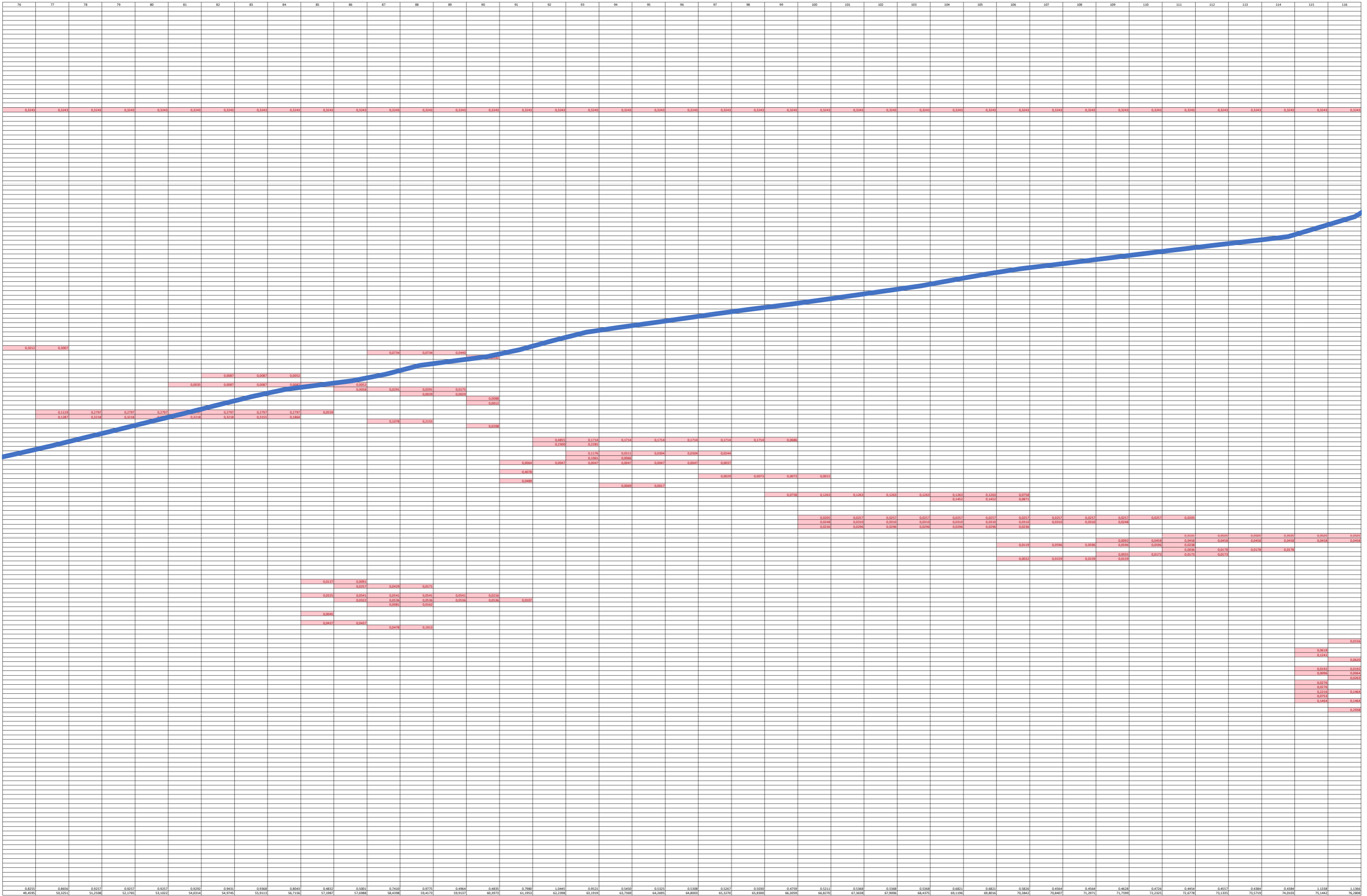








1.020	0.947	0.721	0.654	0.587	0.379	0.349	0.338	0.314	0.303	0.401	0.500	0.500	0.482	0.418	1.027	1.301	0.928	0.928	0.928	0.928	0.950	0.947	0.947	0.990	0.422	0.518	0.200	1.010	0.200	0.339	0.339	0.350	0.325	0.437	0.467	0.466	0.462	0.418	0.379	0.380
25.000	26.112	26.876	27.189	28.186	28.007	28.811	29.298	29.772	29.992	30.881	30.880	31.800	31.800	32.261	33.168	34.090	35.216	35.746	37.683	38.101	38.100	39.000	39.000	40.210	40.640	41.681	41.881	42.870	43.372	43.978	44.374	44.964	45.000	45.480	46.800	46.881	47.460	47.707	48.101	48.410



0.8551	0.8561	0.9252	0.9257	0.9257	0.9257	0.9431	0.9388	0.8943	0.4832	0.9201	0.7437	0.9775	0.4964	0.4835	0.7980	1.0451	0.9521	0.9490	0.5335	0.5398	0.5297	0.5090	0.4798	0.5211	0.5388	0.5398	0.5398	0.6821	0.6821	0.5826	0.4564	0.4564	0.4628	0.4726	0.4454	0.4557	0.4384	0.4384	1.1138	1.1362
46.4618	50.1211	51.2108	52.1786	53.1052	54.0184	54.9181	56.7916	57.4987	57.6988	58.4198	59.4173	59.8177	60.9373	61.9531	62.2388	63.1928	63.1928	63.7989	64.2985	64.8001	65.1270	65.6080	66.0699	66.4920	67.4838	67.9068	68.4171	69.1196	69.8016	70.1882	70.1882	70.4807	71.2971	71.7989	72.2161	72.6778	73.1181	73.5142	74.0651	74.4920

