

BAB VI

KESIMPULAN DAN SARAN

6.1 Kesimpulan

Setelah dilakukan perancangan pada gedung Alpines Condotel yang terletak di Jl. Trunojoyo No. 9, Songgokerto, Batu, dapat diambil beberapa kesimpulan sebagai berikut:

1. Balok yang digunakan dengan dimensi B1 = 300x500, B2 = 300x450, B3 = 250x400. Pelat lantai dasar dengan tebal 175 mm dan pelat lantai lainnya tebal 125 mm. Dimensi kolom K1 = 400x700, K2 = 300x700, K3 = 300x600, K4 = 300x500, K5 = 300x400, K6 = 300x350.
2. Pelat lantai satu arah P2 dengan tulangan utama P10-200 mm dan tulangan suhu susut P10-200 mm. Pelat lantai dua arah P5 dengan tulangan utama P10-200 mm dan tulangan suhu susut P10-200 mm.
3. Balok induk B1 (300x500) dengan bentang 6 m di lantai 4 digunakan tulangan longitudinal tumpuan atas 5D19 dan bawah 3D19, tulangan longitudinal lapangan atas 2D19 dan bawah 3D19, tulangan transversal 3P10-100 pada daerah tumpuan dan lapangan.
4. Kolom K2 (300x700) di lantai 1 digunakan tulangan longitudinal 10D19. Tulangan transversal pada daerah l_o 2D13-75 dan 4D13-75. Tulangan transversal diluar daerah l_o 2D13-100 dan 4D13-100. Dengan panjang l_o 700 mm.

5. Tangga dengan tinggi antar lantai 3,3 m menggunakan tulangan utama D16-120 dan tulangan suhu susut P8-150.

6.2 Saran

Setelah melakukan perhitungan pada perancangan ini, penulis dapat memberi beberapa saran sebagai berikut:

1. Diperlukan pemahaman yang baik dalam membaca pernyataan dalam SNI, disarankan untuk membaca beberapa referensi perhitungan agar penerapan pasal SNI dapat dilakukan dengan tepat.
2. Perhitungan estimasi dimensi sebaiknya dilakukan secara lebih mendalam agar dapat mengefisiensikan penggunaan tulangan.
3. Ketelitian dalam melakukan analisis sangat dibutuhkan, disarankan agar mengecek kembali setiap perhitungan yang telah dilakukan agar tidak terjadi kesalahan yang dapat mempengaruhi perhitungan berikutnya.

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Skala 1 : 250

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Dosen Pembimbing :

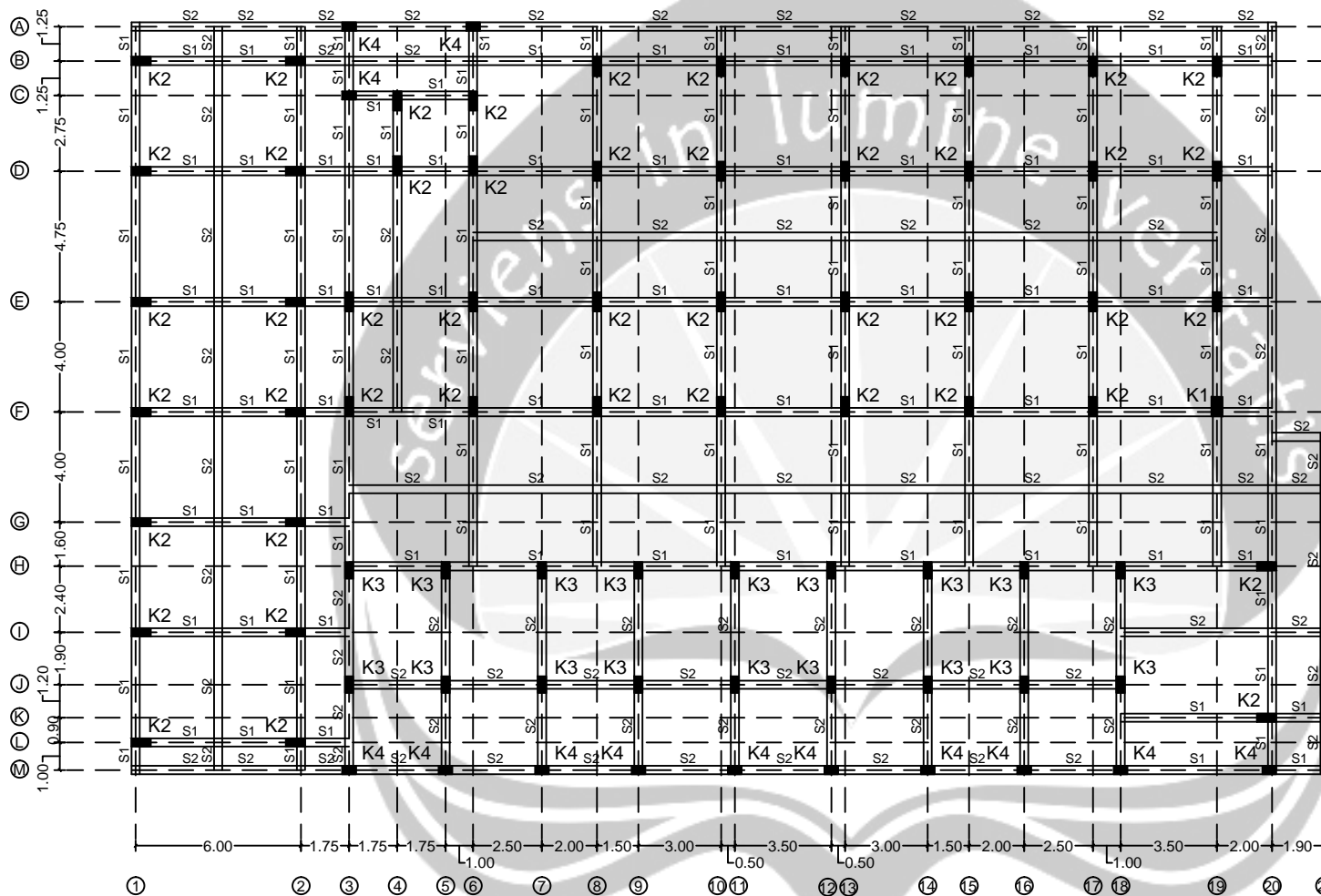
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :

1

Jumlah Gambar :

29



KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
| K6 = 300 x 350 | | |

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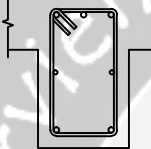
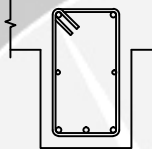
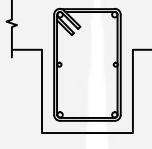
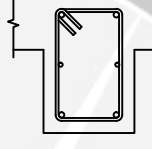
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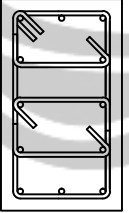
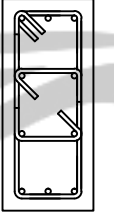
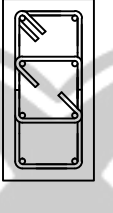
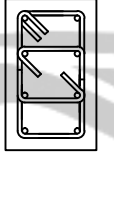
Nomor Gambar :
2

Jumlah Gambar :
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DETAIL SLOOF LANTAI DASAR EL.+0.00

| TIPE | S1 | | S2 | |
|------------------|---|---|---|---|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG |  |  |  |  |
| DIMENSI | 300 X 500 | | 300 X 450 | |
| TUL. ATAS | 3D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 3D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-75 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI DASAR EL.+0.00

| TIPE | K1 | K2 | K3 | K4 |
|------------------|---|---|---|---|
| GAMBAR PENAMPANG |  |  |  |  |
| DIMENSI | 400 X 700 | 300 X 700 | 300 X 600 | 300 X 500 |
| TULANGAN | 12D19 | 10D19 | 8D19 | 8D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 5D13-75 | 4D13-75 | 4D13-75 | 4D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Lantai 1 EL.+3.30

Skala 1 : 250

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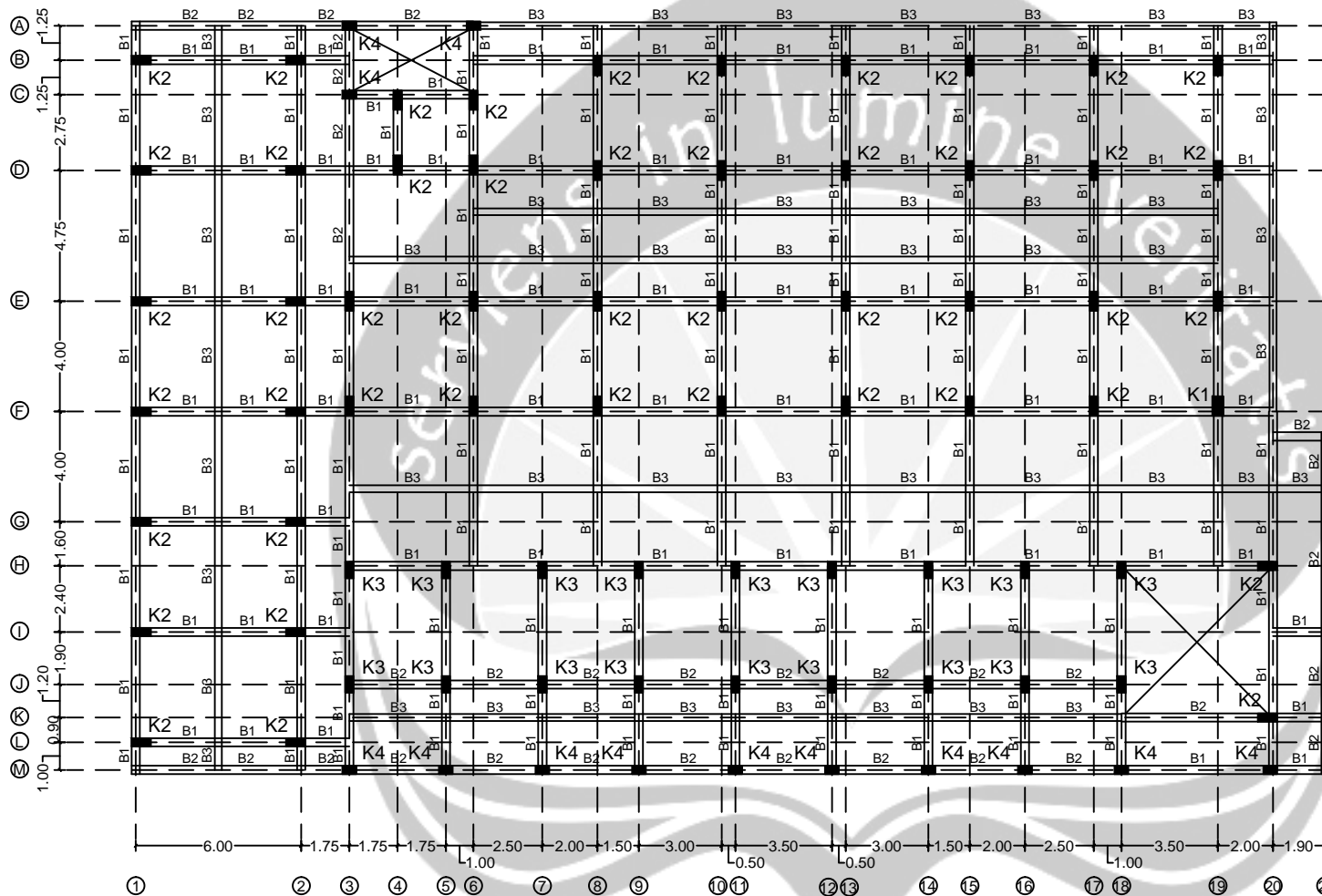
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KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
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Nomor Gambar :

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Jumlah Gambar :

29

DETAIL BALOK LANTAI 1 EL.+3.30

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 6D19 | 2D19 | 4D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 3D19 | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 3P10-100 | 3P10-100 | 2P10-75 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 1 EL.+3.30

| TIPE | K1 | K2 | K3 | K4 |
|------------------|-----------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | | |
| DIMENSI | 400 X 700 | 300 X 700 | 300 X 600 | 300 X 500 |
| TULANGAN | 12D19 | 10D19 | 8D19 | 8D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 5D13-75 | 4D13-75 | 4D13-75 | 4D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Skala 1 : 250

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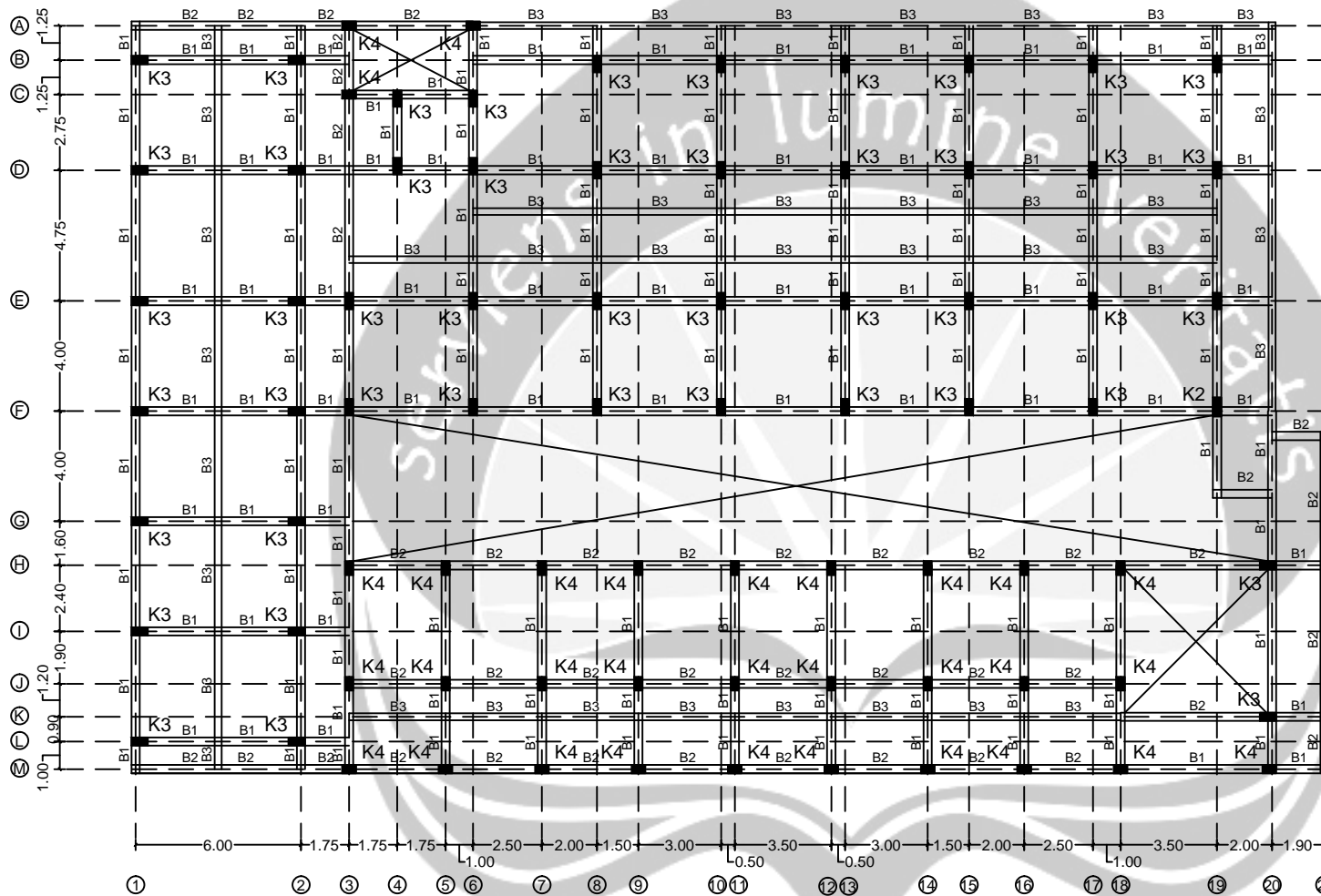
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KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
| K6 = 300 x 350 | | |

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6

Jumlah Gambar :
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DETAIL BALOK LANTAI 2 EL.+6.60

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 6D19 | 2D19 | 4D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 3D19 | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 3P10-100 | 3P10-100 | 2P10-75 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 2 EL.+6.60

| TIPE | K2 | K3 | K4 |
|------------------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | |
| DIMENSI | 300 X 700 | 300 X 600 | 300 X 500 |
| TULANGAN | 10D19 | 8D19 | 8D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 4D13-75 | 4D13-75 | 4D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Lantai 3 EL.+9.90

Skala 1 : 250

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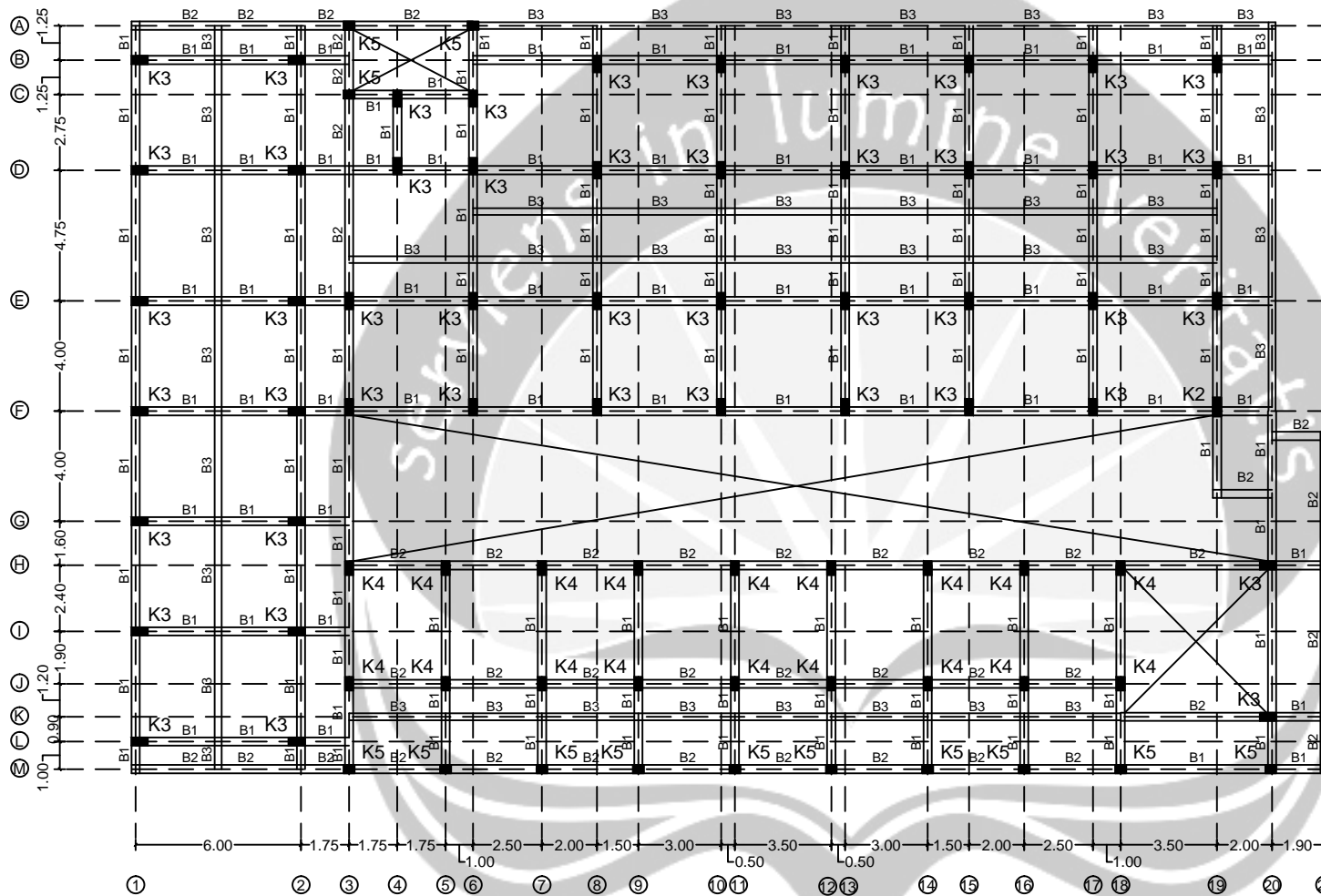
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Nomor Gambar :

7

Jumlah Gambar :

29



KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
| K6 = 300 x 350 | | |

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Lantai 3 EL.+9.90

Skala 1 : 25

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8

Jumlah Gambar :
29

DETAIL BALOK LANTAI 3 EL.+9.90

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 5D19 | 2D19 | 4D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 3D19 | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 3P10-100 | 3P10-100 | 2P10-75 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 3 EL.+9.90

| TIPE | K2 | K3 | K4 | K5 |
|------------------|-----------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | | |
| DIMENSI | 300 X 700 | 300 X 600 | 300 X 500 | 300 X 400 |
| TULANGAN | 10D19 | 8D19 | 8D19 | 6D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 4D13-75 | 4D13-75 | 4D13-75 | 3D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Lantai 4 EL.+13.20

Skala 1 : 250

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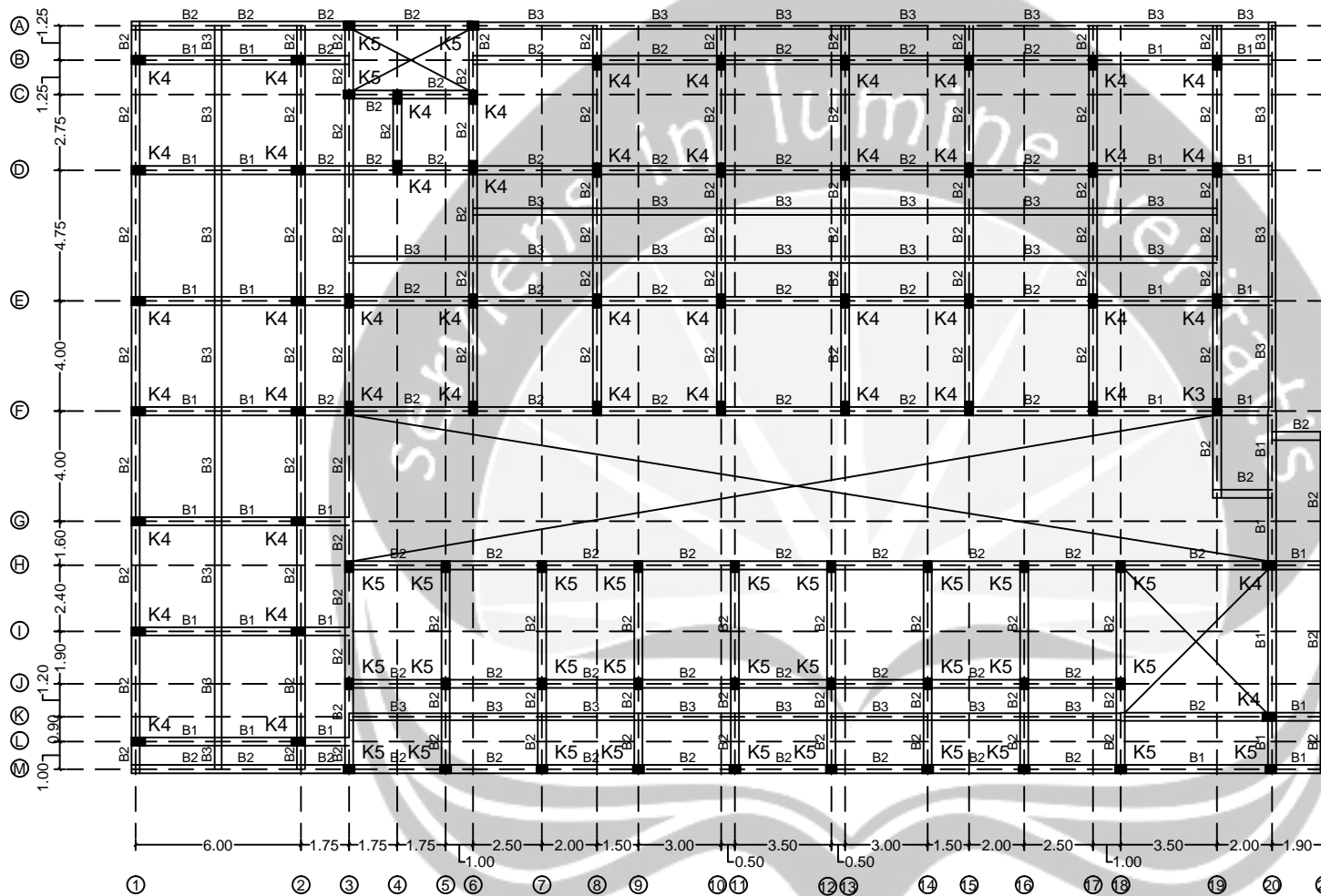
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9

Jumlah Gambar :
29



KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
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10

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DETAIL BALOK LANTAI 4 EL.+13.20

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 5D19 | 2D19 | 4D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 3D19 | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 3P10-100 | 3P10-100 | 2P10-75 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 4 EL.+13.20

| TIPE | K3 | K4 | K5 |
|------------------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | |
| DIMENSI | 300 X 600 | 300 X 500 | 300 X 400 |
| TULANGAN | 8D19 | 8D19 | 6D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 4D13-75 | 4D13-75 | 3D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Lantai 5 EL.+16.50

Skala 1 : 250

Digambar Oleh :

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(13 02 14811)

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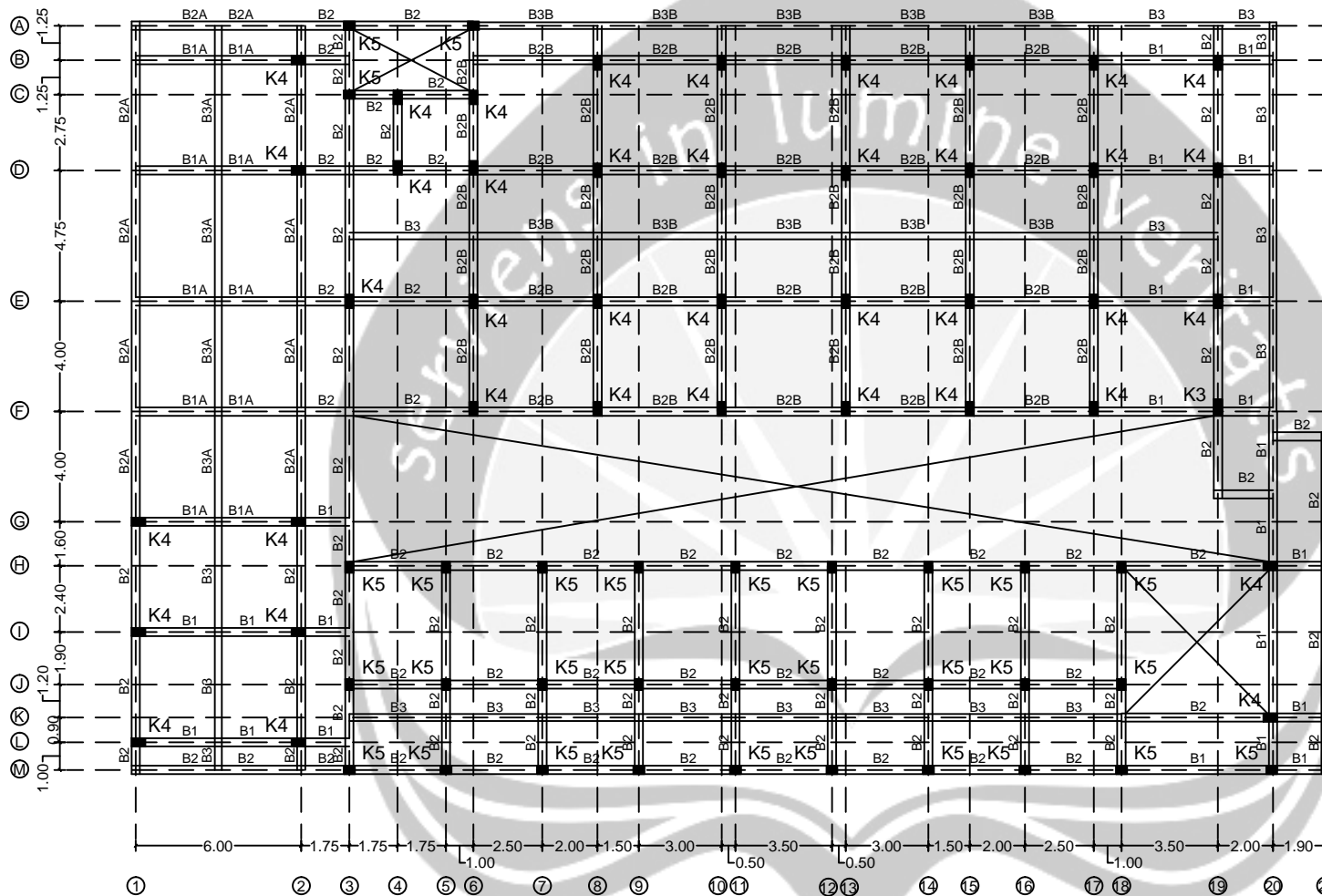
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Nomor Gambar :

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Jumlah Gambar :

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KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
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Lantai 5 EL.+16.50

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DETAIL BALOK LANTAI 5 EL.+16.50

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 3D19 | 2D19 | 3D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 5 EL.+16.50

| TIPE | K3 | K4 | K5 |
|------------------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | |
| DIMENSI | 300 X 600 | 300 X 500 | 300 X 400 |
| TULANGAN | 8D19 | 8D19 | 6D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 4D13-75 | 4D13-75 | 3D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Lantai 5 EL.+16.50

Skala 1 : 25

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

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Nomor Gambar :
13

Jumlah Gambar :
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DETAIL BALOK LANTAI 5 EL.+16.50 (LT. KOLAM RENANG)

| TIPE | B1A | | B2A | | B3A | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 5D19 | 2D19 | 2D19 | 2D19 | 4D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 3D19 | 8D19 | 2D19 | 2D19 | 2D19 | 3D19 |
| SENGKANG | 4P10-100 | 4P10-100 | 2P10-100 | 2P10-100 | 3P10-75 | 2P10-75 |

DETAIL BALOK LANTAI 5 EL.+16.50 (LT. PERTEMUAN)

| TIPE | B2B | | B3B | |
|------------------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | |
| DIMENSI | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 4D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 3D19 | 2D19 | 2D19 |
| SENGKANG | 3P10-100 | 3P10-100 | 2P10-75 | 2P10-75 |

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Tugas Akhir

Denah Balok,
Kolom dan Pelat
Lantai 6 EL.+19.80

Skala 1 : 250

Digambar Oleh :

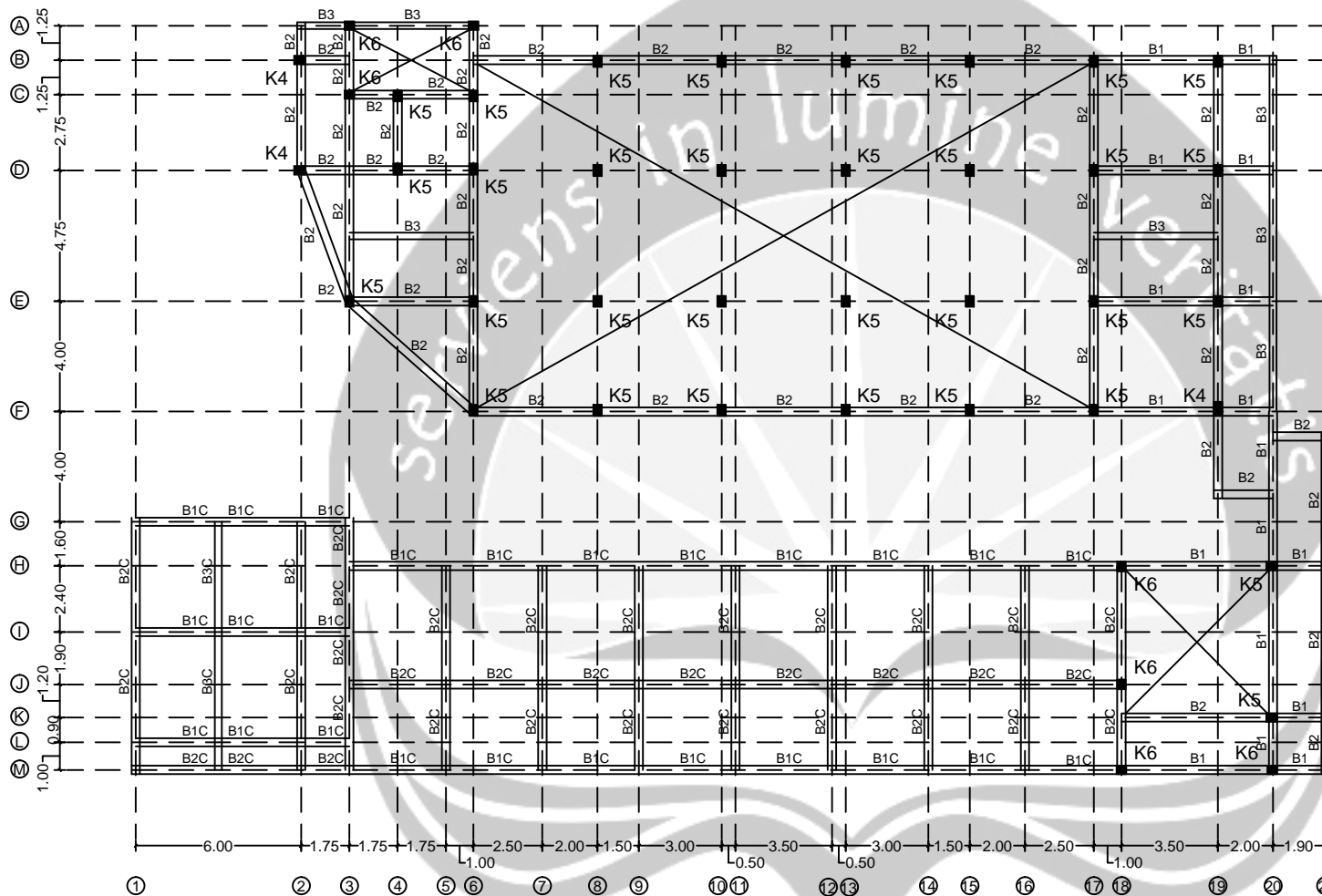
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
14

Jumlah Gambar :
29



KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
| K6 = 300 x 350 | | |

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Detail Balok dan Kolom
Lantai 6 EL.+19.80

Skala 1 : 25

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
15

Jumlah Gambar :
29

DETAIL BALOK LANTAI 6 EL.+19.80

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 3D19 | 2D19 | 3D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM LANTAI 6 EL.+19.80

| TIPE | K4 | K5 | K6 |
|------------------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | |
| DIMENSI | 300 X 500 | 300 X 400 | 300 X 350 |
| TULANGAN | 6D19 | 6D19 | 6D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 3D13-75 | 3D13-75 | 3D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Detail Balok
Lantai 6 EL.+19.80

Skala 1 : 25

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

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Nomor Gambar :
16

Jumlah Gambar :
29

| DETAIL BALOK LANTAI 6 EL.+19.80 (ATAP TAMAN) | | | | | | |
|--|-----------|----------|-----------|----------|-----------|----------|
| TIPE | B1C | | B2C | | B3C | |
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 4D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-75 | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-75 | 2P10-75 |

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Tugas Akhir

Denah Balok,
Kolom dan Pelat
Atap (A) EL.+23.00

Skala 1 : 250

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

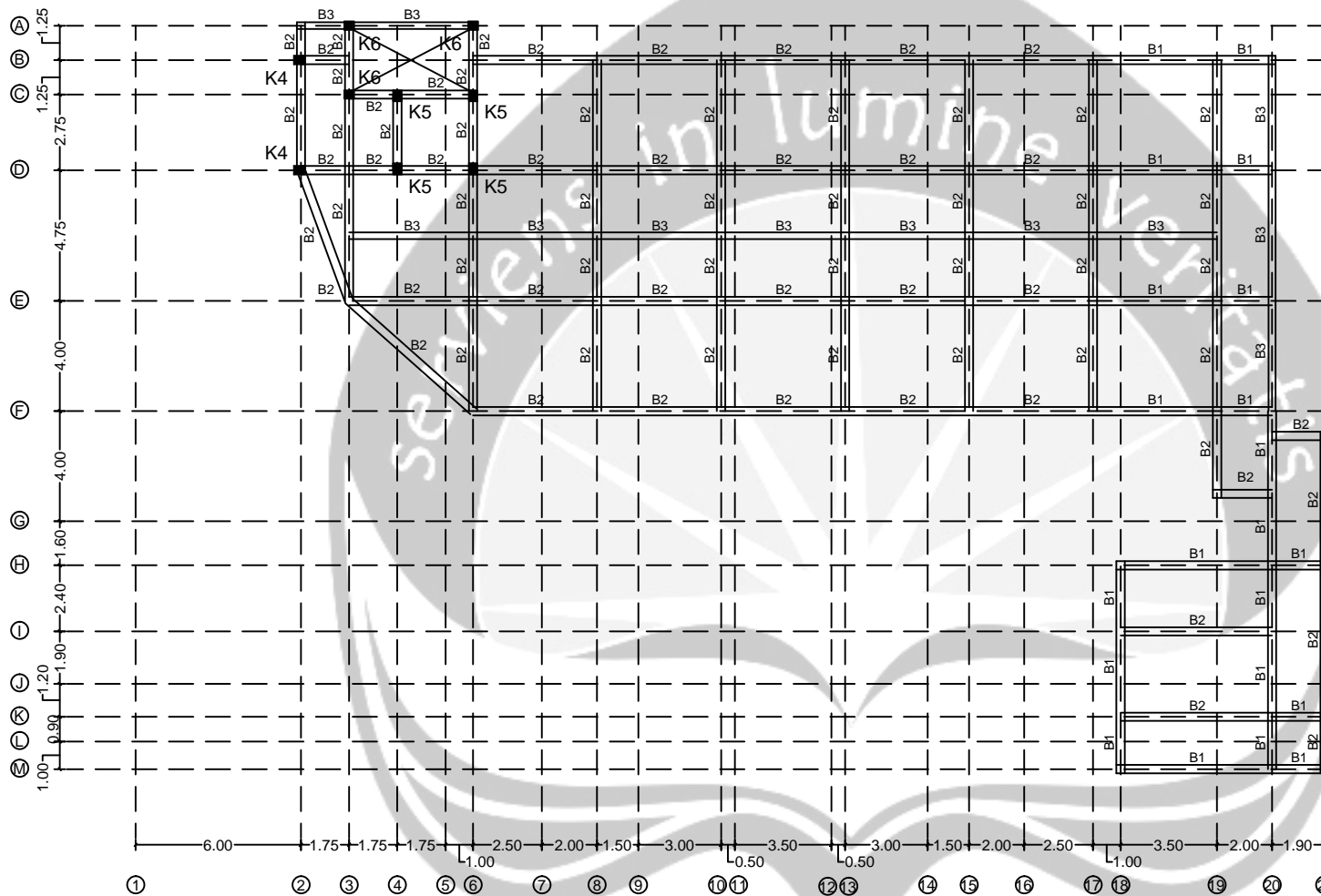
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :

17

Jumlah Gambar :

29



KETERANGAN :

TIPE KOLOM

K1 = 400 x 700

K2 = 300 x 700

K3 = 300 x 600

K4 = 300 x 500

K5 = 300 x 400

K6 = 300 x 350

TIPE BALOK

B1 = 300 x 500

B2 = 300 x 450

B3 = 250 x 400

TIPE SLOOF

S1 = 300 x 500

S2 = 300 x 450

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Detail Balok dan Kolom
Atap (A) EL.+23.00

Skala 1 : 25

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

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Nomor Gambar :
18

Jumlah Gambar :
29

DETAIL BALOK ATAP (A) EL.+23.00

| TIPE | B1 | | B2 | | B3 | |
|------------------|-----------|----------|-----------|----------|-----------|----------|
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | | | |
| DIMENSI | 300 X 500 | | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 3D19 | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-100 | 2P10-75 | 2P10-75 |

DETAIL KOLOM ATAP (A) EL.+23.00

| TIPE | K4 | K5 | K6 |
|------------------|-----------|-----------|-----------|
| GAMBAR PENAMPANG | | | |
| DIMENSI | 300 X 500 | 300 X 400 | 300 X 350 |
| TULANGAN | 6D19 | 6D19 | 6D19 |
| SENGKANG - X | 2D13-75 | 2D13-75 | 2D13-75 |
| SENGKANG - Y | 3D13-75 | 3D13-75 | 3D13-75 |

Nb : Untuk sengkang kolom di luar panjang l_0 menggunakan spasi 100 mm

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Tugas Akhir

Denah Balok,
Kolom dan Pelat
Atap (B) EL.+26.20

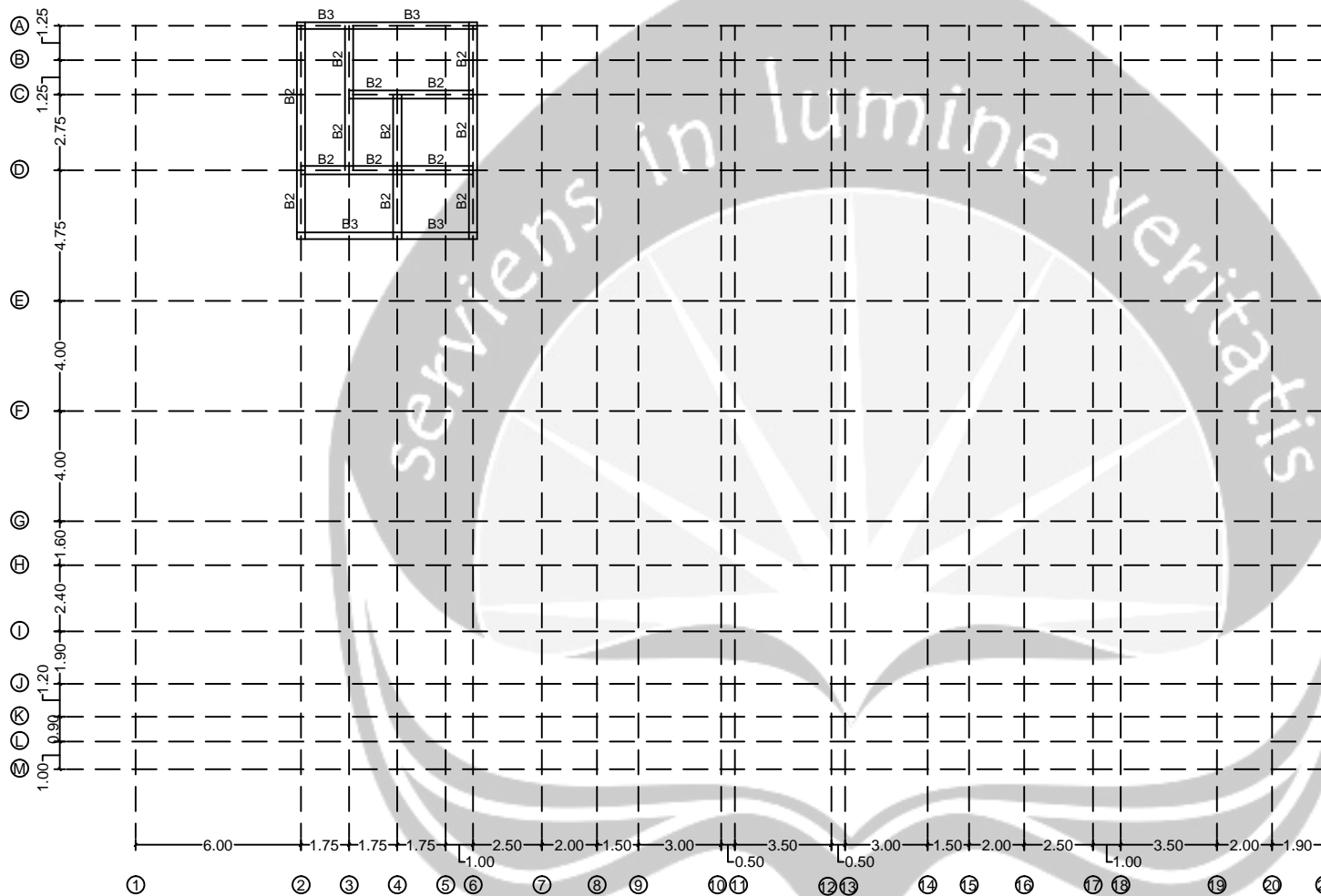
Skala 1 : 250

Digambar Oleh :
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
19

Jumlah Gambar :
29



KETERANGAN :

| TIPE KOLOM | TIPE BALOK | TIPE SLOOF |
|----------------|----------------|----------------|
| K1 = 400 x 700 | B1 = 300 x 500 | S1 = 300 x 500 |
| K2 = 300 x 700 | B2 = 300 x 450 | S2 = 300 x 450 |
| K3 = 300 x 600 | B3 = 250 x 400 | |
| K4 = 300 x 500 | | |
| K5 = 300 x 400 | | |
| K6 = 300 x 350 | | |

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Detail Balok
Atap (B) EL.+26.20

Skala 1 : 25

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

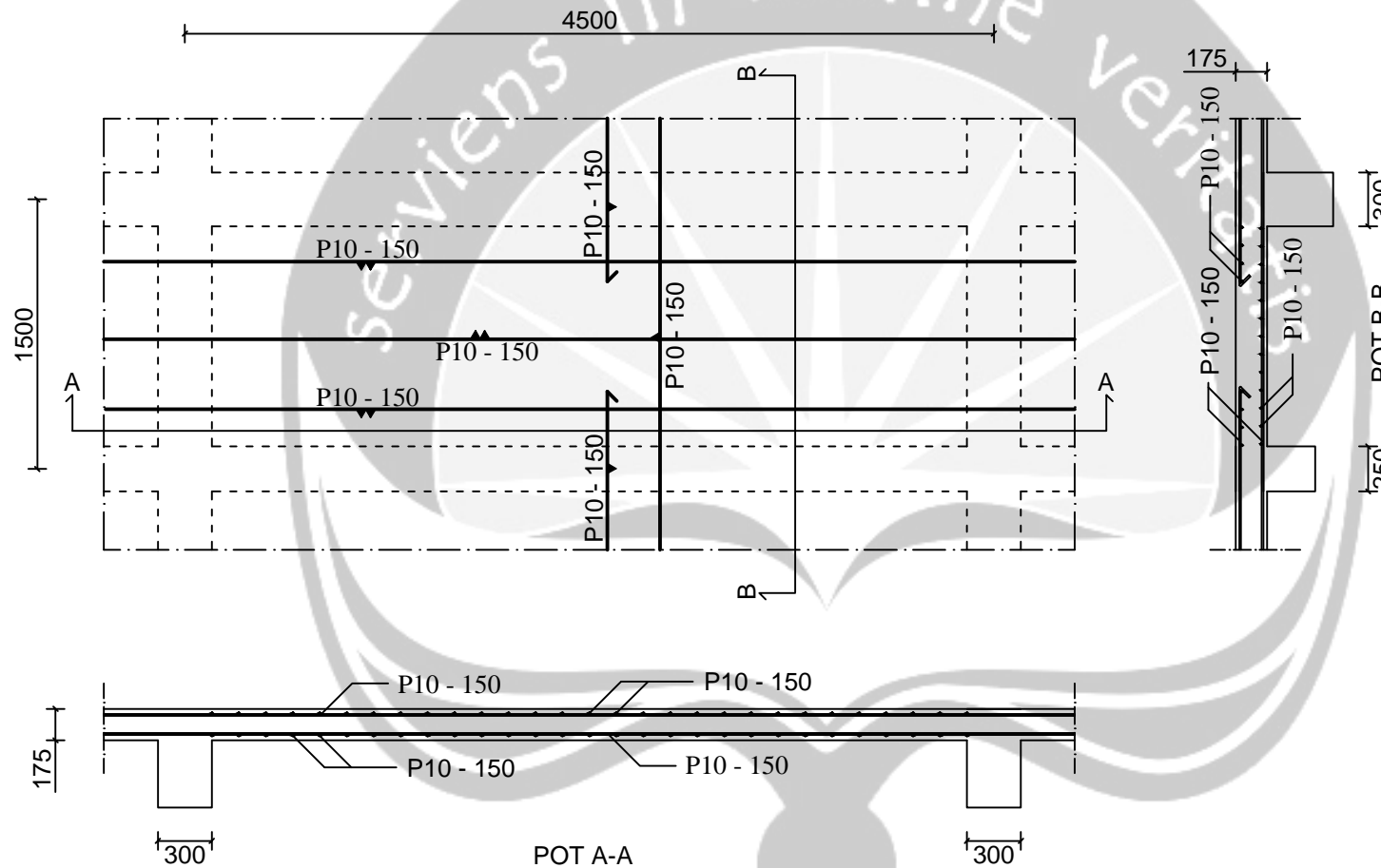
Dosen Pembimbing :

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Nomor Gambar :
20

Jumlah Gambar :
29

| DETAIL BALOK ATAP (B) EL.+26.20 | | | | |
|---------------------------------|-----------|----------|-----------|----------|
| TIPE | B2 | | B3 | |
| | TUMPUAN | LAPANGAN | TUMPUAN | LAPANGAN |
| GAMBAR PENAMPANG | | | | |
| DIMENSI | 300 X 450 | | 250 X 400 | |
| TUL. ATAS | 2D19 | 2D19 | 2D19 | 2D19 |
| TUL. SAMPING | 2D13 | 2D13 | 2D13 | 2D13 |
| TUL. BAWAH | 2D19 | 2D19 | 2D19 | 2D19 |
| SENGKANG | 2P10-100 | 2P10-100 | 2P10-75 | 2P10-75 |



Detail Pelat Satu Arah
(R.Basement)

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Tugas Akhir

Detail Penulangan
Pelat Lantai P1

Skala 1 : 40

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

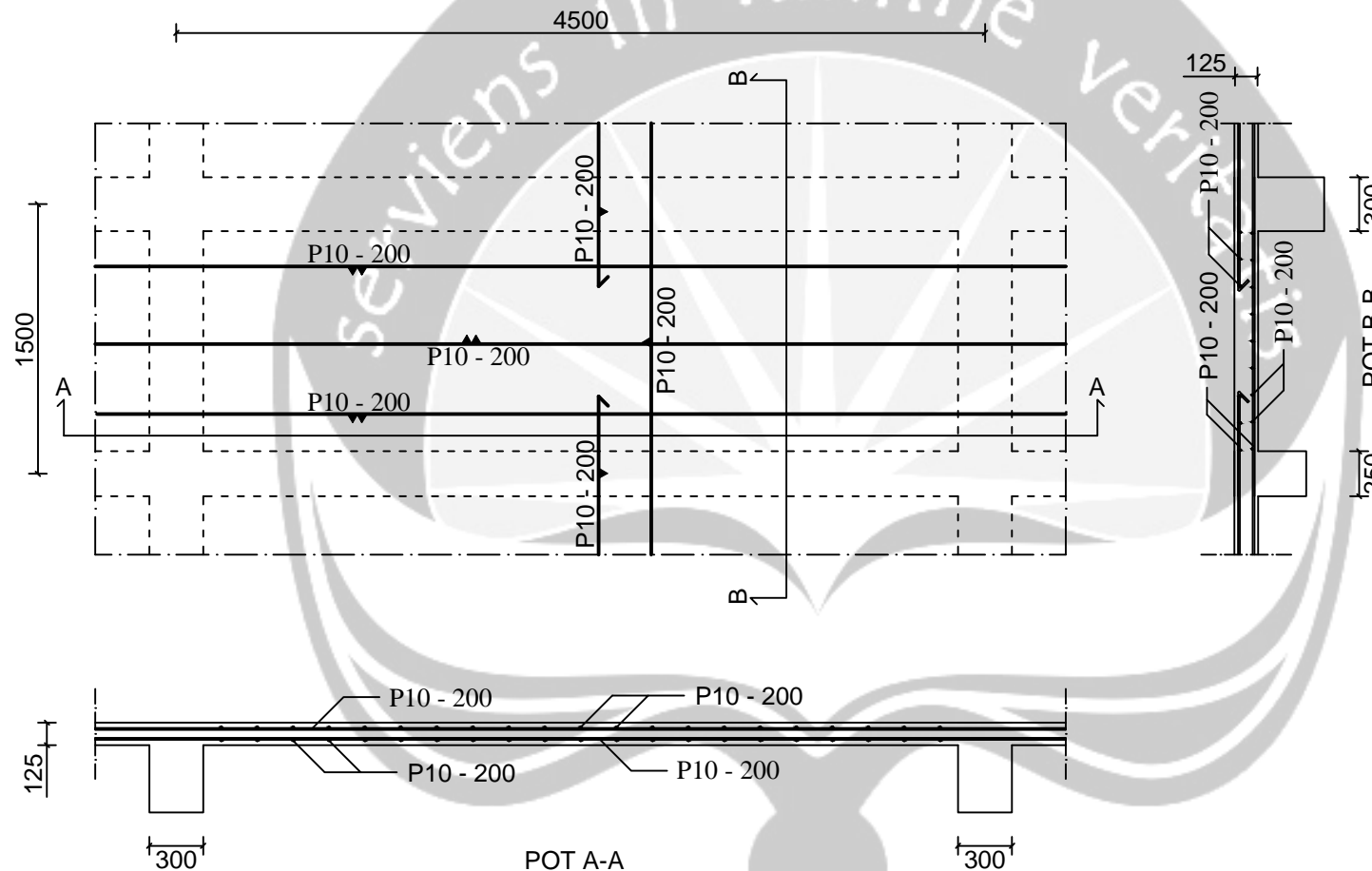
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :

21

Jumlah Gambar :

29



Detail Pelat Satu Arah

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Detail Penulangan
Pelat Lantai P2

Skala 1 : 40

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

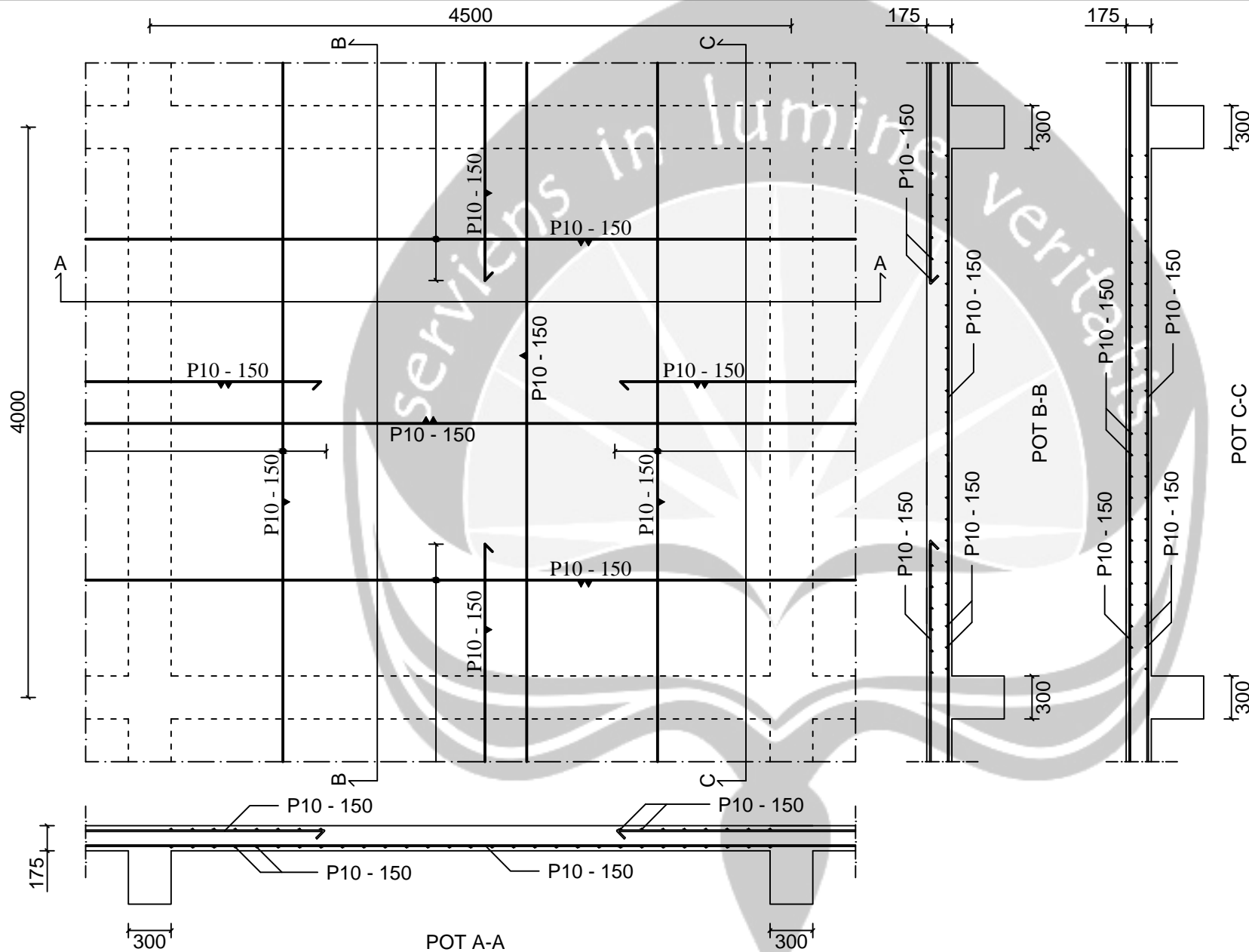
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :

22

Jumlah Gambar :

29



POT A-A

POT B-B

POT C-C

Detail Pelat Dua Arah
(R. Basement)

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Detail Penulangan
Pelat Lantai P3

Skala 1 : 40

Digambar Oleh :

A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :

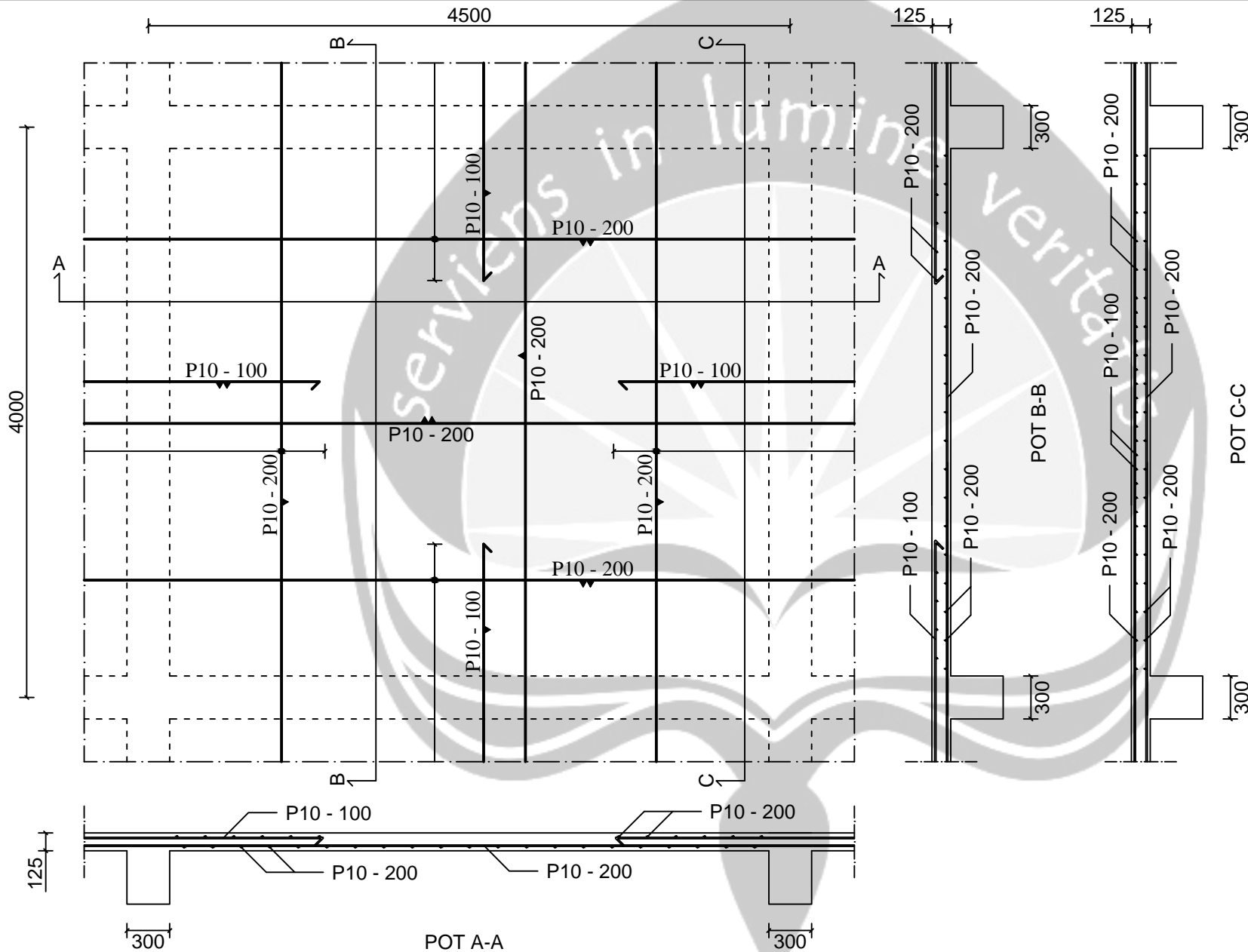
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :

23

Jumlah Gambar :

29



POT A-A
 POT B-B
 POT C-C
 Detail Pelat Dua Arah
 (R.Pertemuan dan Atap Taman)

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Tahun Ajaran
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Detail Penulangan
 Pelat Lantai P4

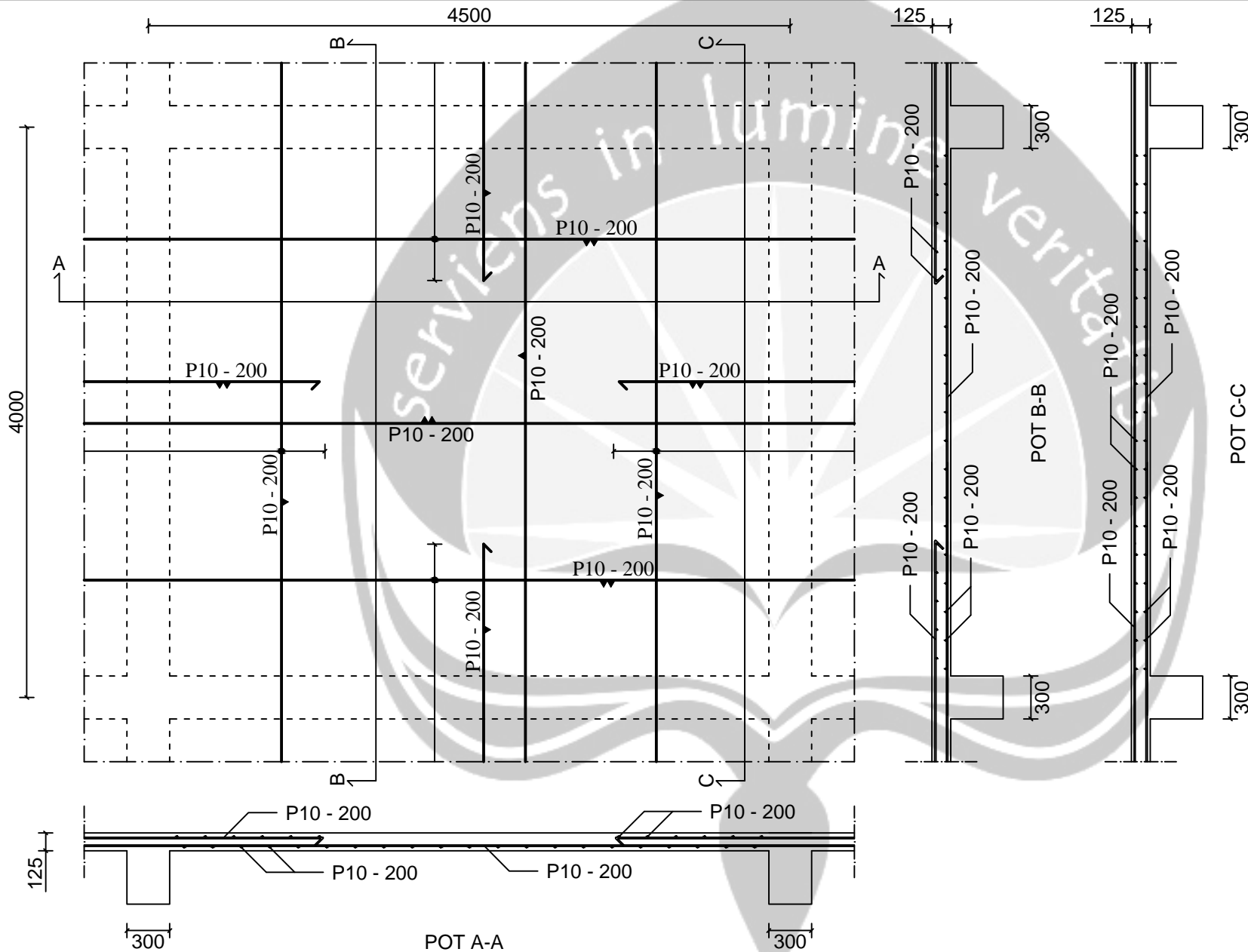
Skala 1 : 40

Digambar Oleh :
 A. Pandu Widagdo
 (13 02 14811)

Dosen Pembimbing :
 Prof. Ir. Yoyong A., M.Eng., Ph.D

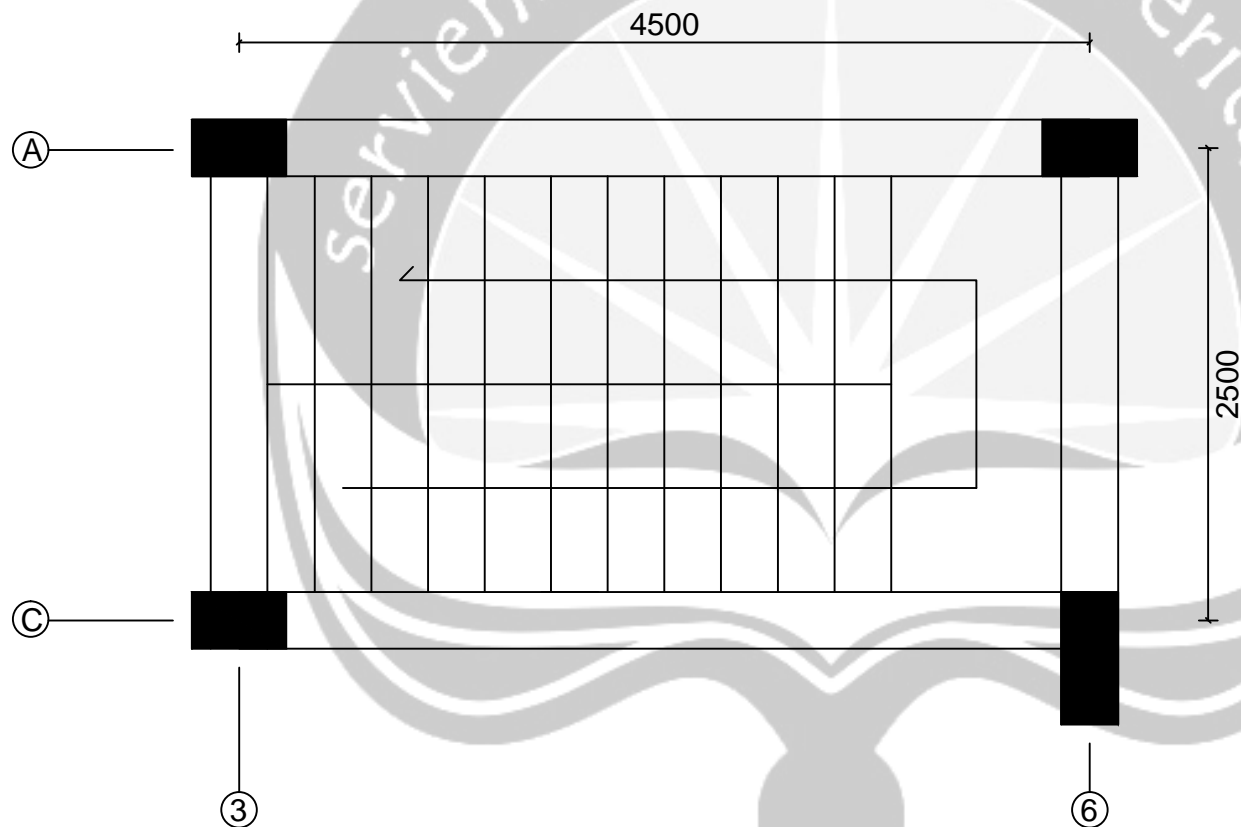
Nomor Gambar :
 24

Jumlah Gambar :
 29



Detail Pelat Dua Arah

| |
|---|
| Universitas Atma Jaya Yogyakarta |
| Fakultas Teknik Program Studi Teknik Sipil |
| Tahun Ajaran 2017/2018 |
| Tugas Akhir |
| Detail Penulangan Pelat Lantai P5 |
| Skala 1 : 40 |
| Digambar Oleh : A. Pandu Widagdo (13 02 14811) |
| Dosen Pembimbing : Prof. Ir. Yoyong A., M.Eng., Ph.D |
| Nomor Gambar : 25 |
| Jumlah Gambar : 29 |



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Tugas Akhir

Denah Tangga 1

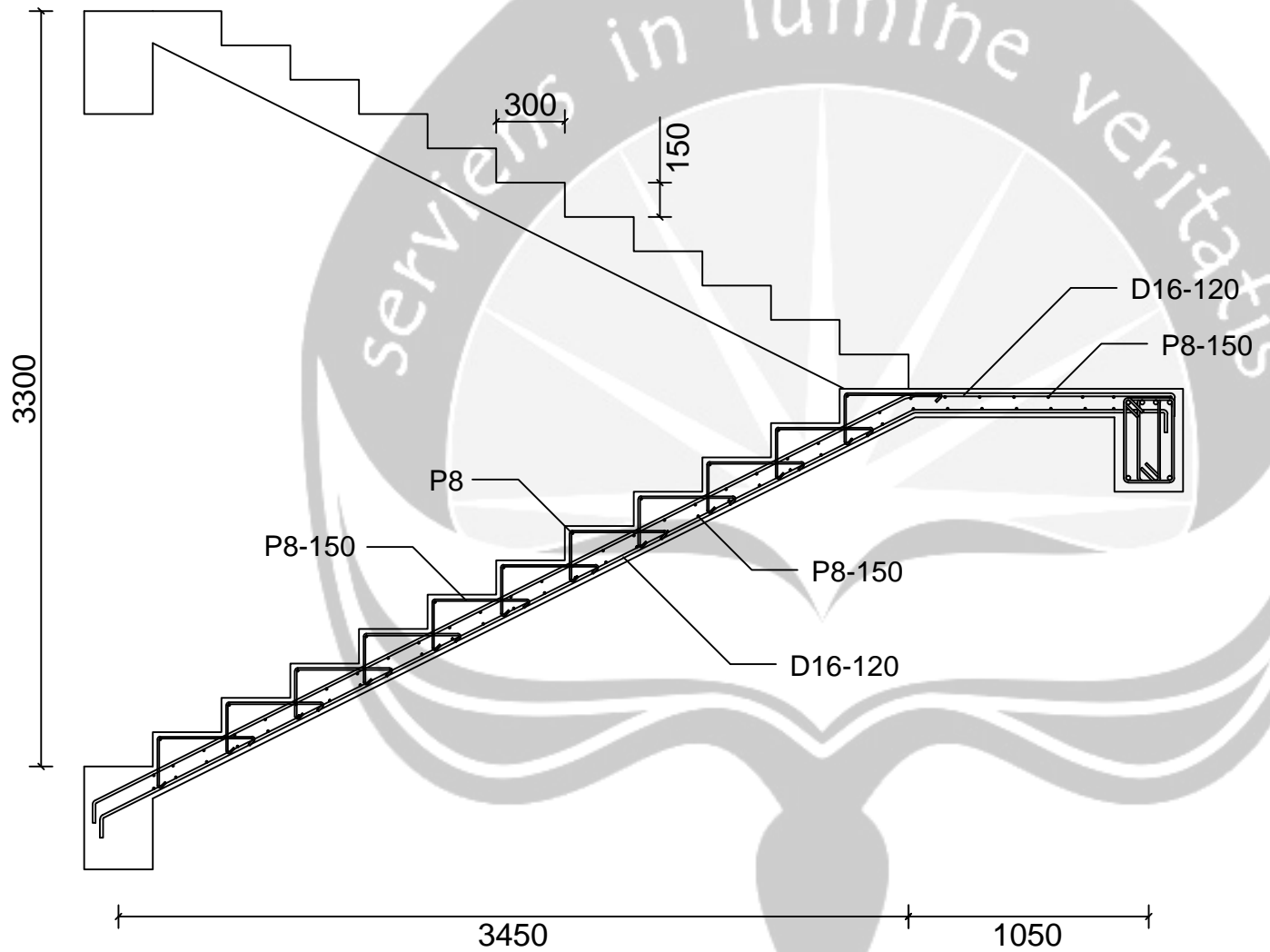
Skala 1 : 40

Digambar Oleh :
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
26

Jumlah Gambar :
29



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Tahun Ajaran
2017/2018

Tugas Akhir

Detail Penulangan
Tangga 1

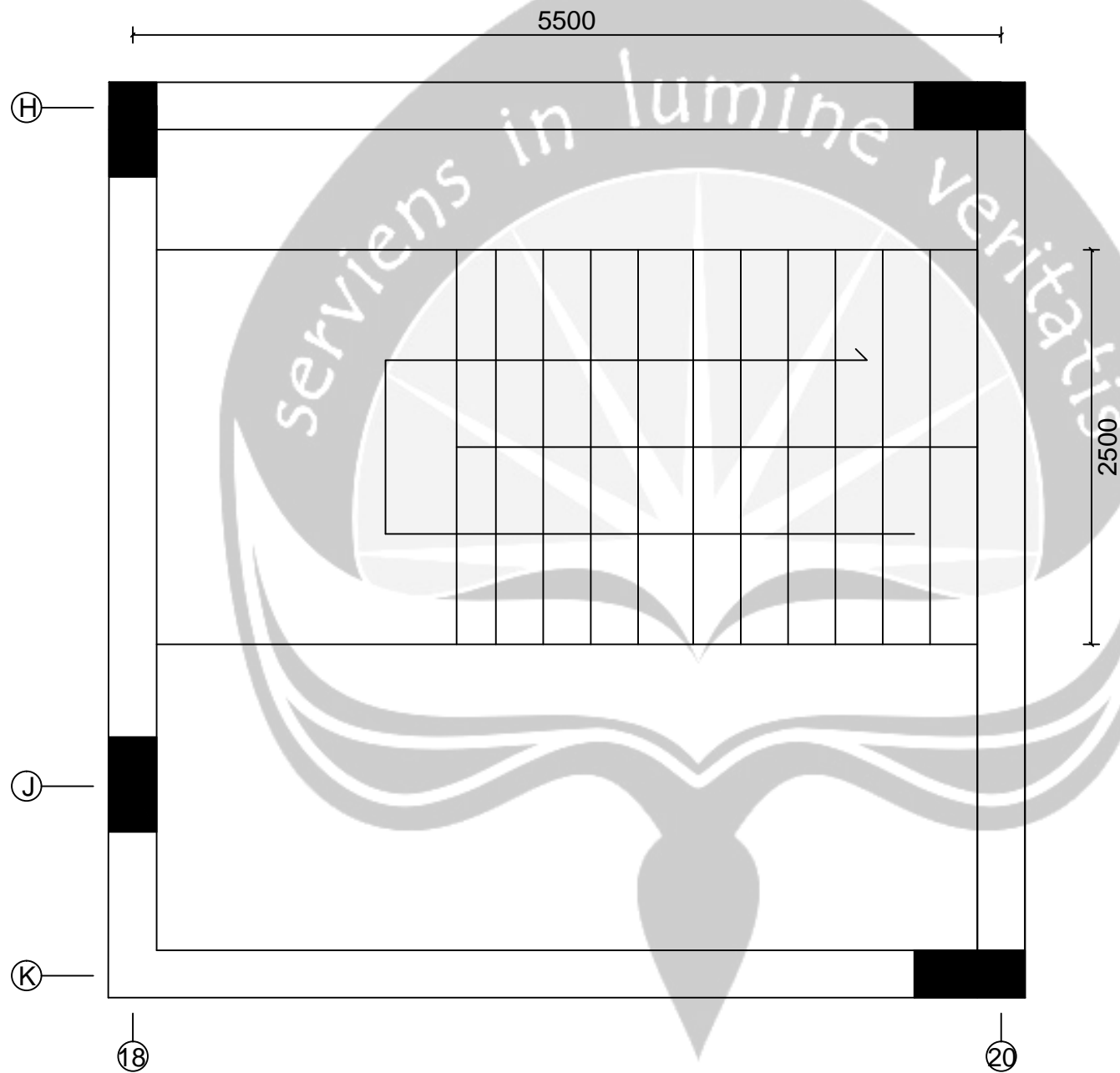
Skala 1 : 30

Digambar Oleh :
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :
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Nomor Gambar :
27

Jumlah Gambar :
29



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2017/2018

Tugas Akhir

Denah Tangga 2

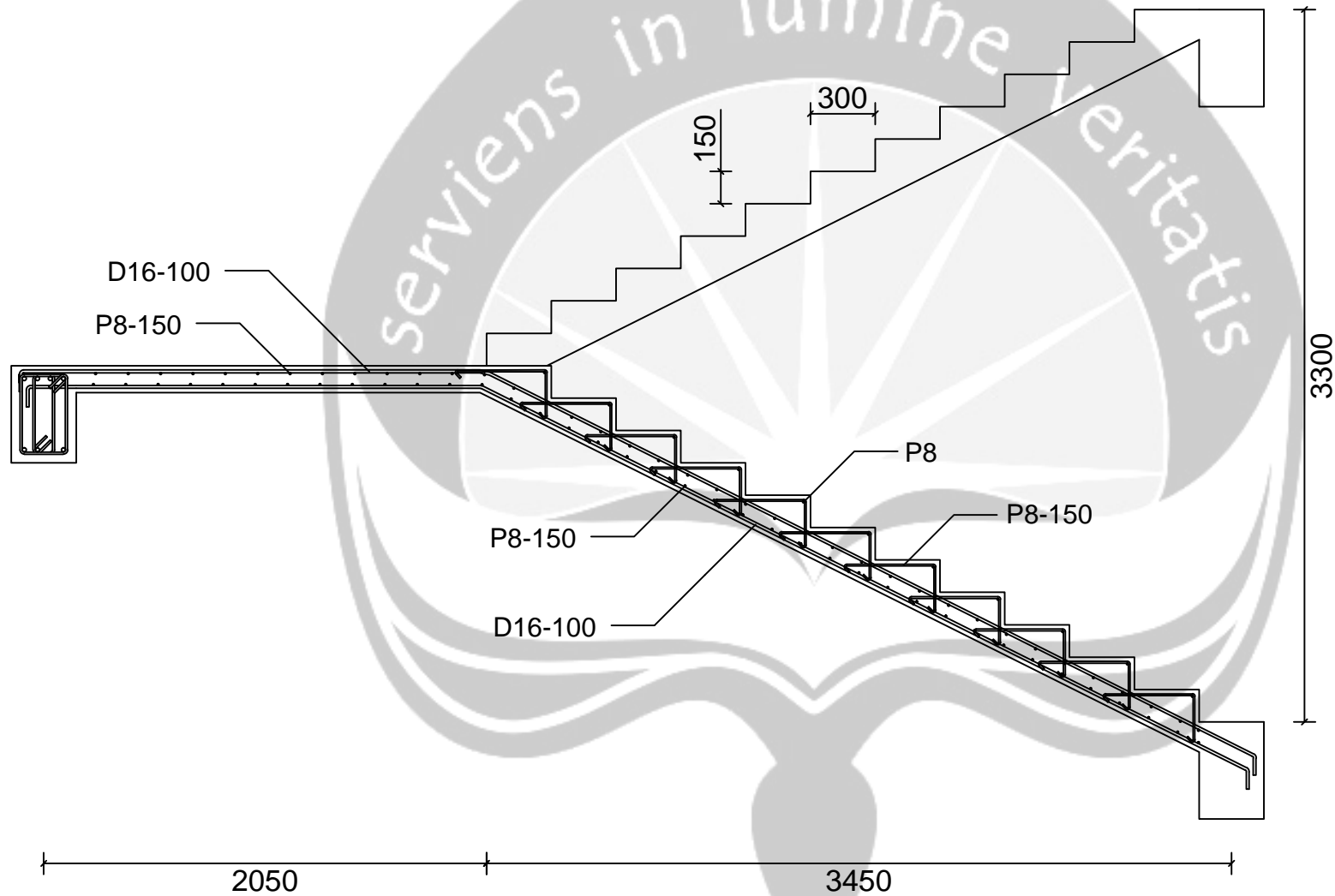
Skala 1 : 40

Digambar Oleh :
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
28

Jumlah Gambar :
29



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Tahun Ajaran
2017/2018

Tugas Akhir

Detail Penulangan
Tangga 2

Skala 1 : 30

Digambar Oleh :
A. Pandu Widagdo
(13 02 14811)

Dosen Pembimbing :
Prof. Ir. Yoyong A., M.Eng., Ph.D

Nomor Gambar :
29

Jumlah Gambar :
29

Response Spectrum Base Reaction

| Spec | Mode | Dir | F1 | F2 | F3 | M1 | M2 | M3 |
|-------|------|-----|----------------|----------------|----|---------|---------|---------|
| SPECX | 1 | U1 | 3322,19 | 1430,49 | 0 | -22281 | 52878,5 | -18700 |
| SPECX | 2 | U1 | 2037,98 | -2003,7 | 0 | 31542 | 31748 | -68653 |
| SPECX | 3 | U1 | 80,86 | 474,29 | 0 | -7834,8 | 1161,96 | 9081,46 |
| SPECX | 4 | U1 | 434,55 | 143,11 | 0 | 98,063 | -435,76 | -2171,4 |
| SPECX | 5 | U1 | 149,39 | -247,85 | 0 | 200,48 | -179,03 | -6727,5 |
| SPECX | 6 | U1 | 55,52 | 123,74 | 0 | -241,26 | -15,236 | 1223,01 |
| SPECX | 7 | U1 | 354 | -2,35 | 0 | -38,587 | 781,687 | -5447,4 |
| SPECX | 8 | U1 | 0,05 | 3,15 | 0 | -7,955 | 1,39 | 61,529 |
| SPECX | 9 | U1 | 55,01 | -43,69 | 0 | 160,189 | 163,61 | -1721,5 |
| SPECX | 10 | U1 | 1,13 | 16,34 | 0 | -49,442 | 0,109 | 359,358 |
| SPECX | 11 | U1 | 22,53 | 31,46 | 0 | -85,652 | 17,137 | 707,695 |
| SPECX | 12 | U1 | 159,95 | -33,33 | 0 | 66,788 | 394,198 | -2366,3 |
| SPECX | All | All | 4969,23 | 1527,97 | 0 | 23814,6 | 77482,1 | 80790,8 |
| SPECY | 1 | U2 | 1689,67 | 727,55 | 0 | -11332 | 26894,2 | -9511 |
| SPECY | 2 | U2 | -2366,7 | 2326,86 | 0 | -36630 | -36869 | 79726,8 |
| SPECY | 3 | U2 | 560,23 | 3285,97 | 0 | -54281 | 8050,22 | 62917,6 |
| SPECY | 4 | U2 | 169,04 | 55,67 | 0 | 38,147 | -169,51 | -844,69 |
| SPECY | 5 | U2 | -292,76 | 485,71 | 0 | -392,88 | 350,836 | 13183,9 |
| SPECY | 6 | U2 | 146,15 | 325,71 | 0 | -635,05 | -40,104 | 3219,28 |
| SPECY | 7 | U2 | -2,78 | 0,02 | 0 | 0,303 | -6,129 | 42,711 |
| SPECY | 8 | U2 | 3,72 | 233,78 | 0 | -589,76 | 103,064 | 4561,77 |
| SPECY | 9 | U2 | -51,6 | 40,99 | 0 | -150,28 | -153,49 | 1614,97 |
| SPECY | 10 | U2 | 19,3 | 279,31 | 0 | -845,19 | 1,866 | 6143,08 |
| SPECY | 11 | U2 | 37,16 | 51,89 | 0 | -141,28 | 28,267 | 1167,35 |
| SPECY | 12 | U2 | -39,37 | 8,2 | 0 | -16,437 | -97,016 | 582,36 |
| SPECY | All | All | 1804,81 | 4969,23 | 0 | 78826,5 | 27857,5 | 111148 |

Modal Participating Mass Ratio

| Mode | Period | UX | UY | UZ | SumUX | SumUY | SumUZ |
|------|---------|---------|---------|----|---------|---------|-------|
| 1 | 1,03648 | 49,9651 | 9,1489 | 0 | 49,9651 | 9,1489 | 0 |
| 2 | 0,96231 | 28,4003 | 27,6947 | 0 | 78,3654 | 36,8436 | 0 |
| 3 | 0,81729 | 1,127 | 39,0532 | 0 | 79,4925 | 75,8968 | 0 |
| 4 | 0,40657 | 6,1014 | 0,662 | 0 | 85,5939 | 76,5588 | 0 |
| 5 | 0,36495 | 2,0975 | 5,7707 | 0 | 87,6914 | 82,3295 | 0 |
| 6 | 0,32188 | 0,7786 | 3,8729 | 0 | 88,47 | 86,2024 | 0 |
| 7 | 0,2736 | 4,9641 | 0,0019 | 0 | 93,4341 | 86,2043 | 0 |
| 8 | 0,26907 | 0,0045 | 2,7726 | 0 | 93,4386 | 88,977 | 0 |
| 9 | 0,22275 | 0,7735 | 0,4862 | 0 | 94,2121 | 89,4631 | 0 |
| 10 | 0,2095 | 0,0151 | 3,3212 | 0 | 94,2272 | 92,7843 | 0 |
| 11 | 0,18153 | 0,3258 | 0,6427 | 0 | 94,5531 | 93,427 | 0 |
| 12 | 0,17308 | 2,3957 | 0,1041 | 0 | 96,9487 | 93,5311 | 0 |

Berat Efektif Bangunan

| Group | SelfMass | SelfWeight | TotalMassX | TotalMassY | TotalMassZ |
|---------|----------|------------|------------|------------|------------|
| ALL | 4616,392 | 45286,811 | 7920,4954 | 7920,4954 | 0 |
| GROUND | 744,4104 | 7302,666 | 1007,4682 | 1007,4682 | 0 |
| LANTAI1 | 715,7201 | 7021,214 | 1228,9211 | 1228,9211 | 0 |
| LANTAI2 | 639,3053 | 6271,585 | 1090,6162 | 1090,6162 | 0 |
| LANTAI3 | 623,4688 | 6116,229 | 1075,9307 | 1075,9307 | 0 |
| LANTAI4 | 607,9798 | 5964,282 | 1063,5308 | 1063,5308 | 0 |
| LANTAI5 | 585,9479 | 5748,148 | 1299,0007 | 1299,0007 | 0 |
| LANTAI6 | 359,7947 | 3529,586 | 663,5477 | 663,5477 | 0 |
| ATAP(A) | 302,7344 | 2969,825 | 443,1746 | 443,1746 | 0 |
| ATAP(B) | 37,0312 | 363,276 | 48,3054 | 48,3054 | 0 |

Output Gaya Balok B1 Lantai 4 As E/1-2

| Story | Beam | Load | Loc | P | V2 | V3 | T | M2 | M3 |
|--------|------|-------|-------|---|----------------|----|---------|----|----------------|
| STORY5 | B65 | COMB3 | 0 | 0 | 68,07 | 0 | -40,977 | 0 | 0,007 |
| STORY5 | B65 | COMB3 | 0,1 | 0 | 344,55 | 0 | -21,158 | 0 | -21,93 |
| STORY5 | B65 | COMB3 | 0,1 | 0 | 68,93 | 0 | -40,977 | 0 | -6,841 |
| STORY5 | B65 | COMB3 | 0,15 | 0 | 345,04 | 0 | -21,158 | 0 | -39,169 |
| STORY5 | B65 | COMB3 | 0,15 | 0 | -47,28 | 0 | 1,565 | 0 | 35,013 |
| STORY5 | B65 | COMB3 | 0,625 | 0 | -40,77 | 0 | 1,565 | 0 | 56,061 |
| STORY5 | B65 | COMB3 | 1,1 | 0 | -30,84 | 0 | 1,565 | 0 | 73,205 |
| STORY5 | B65 | COMB3 | 1,575 | 0 | -17,56 | 0 | 1,565 | 0 | 84,819 |
| STORY5 | B65 | COMB3 | 2,05 | 0 | -5,28 | 0 | 1,565 | 0 | 90,108 |
| STORY5 | B65 | COMB3 | 2,525 | 0 | 3,57 | 0 | 1,565 | 0 | 90,379 |
| STORY5 | B65 | COMB3 | 3 | 0 | 8,99 | 0 | 1,565 | 0 | 87,26 |
| STORY5 | B65 | COMB3 | 3 | 0 | 90,03 | 0 | -1,988 | 0 | 87,729 |
| STORY5 | B65 | COMB3 | 3,475 | 0 | 95,45 | 0 | -1,988 | 0 | 43,815 |
| STORY5 | B65 | COMB3 | 3,95 | 0 | 104,3 | 0 | -1,988 | 0 | -3,488 |
| STORY5 | B65 | COMB3 | 4,425 | 0 | 116,58 | 0 | -1,988 | 0 | -55,81 |
| STORY5 | B65 | COMB3 | 4,9 | 0 | 129,86 | 0 | -1,988 | 0 | -114,46 |
| STORY5 | B65 | COMB3 | 5,375 | 0 | 139,79 | 0 | -1,988 | 0 | -178,63 |
| STORY5 | B65 | COMB3 | 5,85 | 0 | 146,29 | 0 | -1,988 | 0 | -246,71 |
| STORY5 | B65 | COMB3 | 5,85 | 0 | -360,76 | 0 | 12,756 | 0 | -41,139 |
| STORY5 | B65 | COMB3 | 5,9 | 0 | -360,28 | 0 | 12,756 | 0 | -23,113 |
| STORY5 | B65 | COMB3 | 5,9 | 0 | 27,56 | 0 | 24,72 | 0 | 129,759 |
| STORY5 | B65 | COMB3 | 6 | 0 | 28,42 | 0 | 24,72 | 0 | 126,959 |
| STORY5 | B65 | COMB6 | 0 | 0 | 62,1 | 0 | 54,636 | 0 | -0,061 |
| STORY5 | B65 | COMB6 | 0,1 | 0 | 392,78 | 0 | 24,062 | 0 | -121,11 |
| STORY5 | B65 | COMB6 | 0,1 | 0 | 62,96 | 0 | 54,636 | 0 | -6,313 |
| STORY5 | B65 | COMB6 | 0,15 | 0 | -146,31 | 0 | -6,772 | 0 | -257 |
| STORY5 | B65 | COMB6 | 0,15 | 0 | 393,26 | 0 | 24,062 | 0 | -140,76 |
| STORY5 | B65 | COMB6 | 0,625 | 0 | -139,81 | 0 | -6,772 | 0 | -188,91 |
| STORY5 | B65 | COMB6 | 1,1 | 0 | -129,87 | 0 | -6,772 | 0 | -124,73 |
| STORY5 | B65 | COMB6 | 1,575 | 0 | -116,6 | 0 | -6,772 | 0 | -66,073 |
| STORY5 | B65 | COMB6 | 2,05 | 0 | -104,31 | 0 | -6,772 | 0 | -13,743 |
| STORY5 | B65 | COMB6 | 2,525 | 0 | -95,46 | 0 | -6,772 | 0 | 33,569 |
| STORY5 | B65 | COMB6 | 3 | 0 | -10,86 | 0 | 5,786 | 0 | 77,283 |
| STORY5 | B65 | COMB6 | 3 | 0 | -90,04 | 0 | -6,772 | 0 | 77,491 |
| STORY5 | B65 | COMB6 | 3,475 | 0 | -5,44 | 0 | 5,786 | 0 | 81,29 |
| STORY5 | B65 | COMB6 | 3,95 | 0 | 3,41 | 0 | 5,786 | 0 | 81,907 |

| | | | | | | | | | |
|--------|-----|--------|-------|---|---------|---|---------|---|----------------|
| STORY5 | B65 | COMB6 | 4,425 | 0 | 15,69 | 0 | 5,786 | 0 | 77,505 |
| STORY5 | B65 | COMB6 | 4,9 | 0 | 28,97 | 0 | 5,786 | 0 | 66,779 |
| STORY5 | B65 | COMB6 | 5,375 | 0 | 38,91 | 0 | 5,786 | 0 | 50,523 |
| STORY5 | B65 | COMB6 | 5,85 | 0 | -585,32 | 0 | -23,463 | 0 | -104,93 |
| STORY5 | B65 | COMB6 | 5,85 | 0 | 45,41 | 0 | 5,786 | 0 | 30,362 |
| STORY5 | B65 | COMB6 | 5,9 | 0 | -172,5 | 0 | -52,861 | 0 | -113,4 |
| STORY5 | B65 | COMB6 | 5,9 | 0 | -584,84 | 0 | -23,463 | 0 | -75,672 |
| STORY5 | B65 | COMB6 | 6 | 0 | -171,64 | 0 | -52,861 | 0 | -96,192 |
| STORY5 | B65 | COMB11 | 0 | 0 | 36,48 | 0 | -44,752 | 0 | -0,069 |
| STORY5 | B65 | COMB11 | 0,1 | 0 | 36,98 | 0 | -44,752 | 0 | -3,741 |
| STORY5 | B65 | COMB11 | 0,1 | 0 | 92,46 | 0 | -21,718 | 0 | 26,509 |
| STORY5 | B65 | COMB11 | 0,15 | 0 | 92,73 | 0 | -21,718 | 0 | 21,879 |
| STORY5 | B65 | COMB11 | 0,15 | 0 | 3,4 | 0 | 3,009 | 0 | 96,569 |
| STORY5 | B65 | COMB11 | 0,625 | 0 | 6,83 | 0 | 3,009 | 0 | 94,199 |
| STORY5 | B65 | COMB11 | 1,1 | 0 | 11,76 | 0 | 3,009 | 0 | 89,844 |
| STORY5 | B65 | COMB11 | 1,575 | 0 | 18,17 | 0 | 3,009 | 0 | 82,786 |
| STORY5 | B65 | COMB11 | 2,05 | 0 | 24,15 | 0 | 3,009 | 0 | 72,674 |
| STORY5 | B65 | COMB11 | 2,525 | 0 | 28,61 | 0 | 3,009 | 0 | 60,086 |
| STORY5 | B65 | COMB11 | 3 | 0 | 31,55 | 0 | 3,009 | 0 | 45,739 |
| STORY5 | B65 | COMB11 | 3 | 0 | 69,79 | 0 | -3,057 | 0 | 46,149 |
| STORY5 | B65 | COMB11 | 3,475 | 0 | 72,74 | 0 | -3,057 | 0 | 12,358 |
| STORY5 | B65 | COMB11 | 3,95 | 0 | 77,2 | 0 | -3,057 | 0 | -23,192 |
| STORY5 | B65 | COMB11 | 4,425 | 0 | 83,17 | 0 | -3,057 | 0 | -61,22 |
| STORY5 | B65 | COMB11 | 4,9 | 0 | 89,58 | 0 | -3,057 | 0 | -102,3 |
| STORY5 | B65 | COMB11 | 5,375 | 0 | 94,52 | 0 | -3,057 | 0 | -146,08 |
| STORY5 | B65 | COMB11 | 5,85 | 0 | 97,94 | 0 | -3,057 | 0 | -191,85 |
| STORY5 | B65 | COMB11 | 5,85 | 0 | -53,77 | 0 | 15,374 | 0 | -1,561 |
| STORY5 | B65 | COMB11 | 5,9 | 0 | -53,49 | 0 | 15,374 | 0 | 1,121 |
| STORY5 | B65 | COMB11 | 5,9 | 0 | 51,23 | 0 | 32,257 | 0 | 111,22 |
| STORY5 | B65 | COMB11 | 6 | 0 | 51,73 | 0 | 32,257 | 0 | 106,072 |
| STORY5 | B65 | COMB14 | 0 | 0 | 30,52 | 0 | 50,861 | 0 | -0,137 |
| STORY5 | B65 | COMB14 | 0,1 | 0 | 140,69 | 0 | 23,502 | 0 | -72,673 |
| STORY5 | B65 | COMB14 | 0,1 | 0 | 31,01 | 0 | 50,861 | 0 | -3,213 |
| STORY5 | B65 | COMB14 | 0,15 | 0 | -95,63 | 0 | -5,328 | 0 | -195,45 |
| STORY5 | B65 | COMB14 | 0,15 | 0 | 140,96 | 0 | 23,502 | 0 | -79,714 |
| STORY5 | B65 | COMB14 | 0,625 | 0 | -92,21 | 0 | -5,328 | 0 | -150,77 |
| STORY5 | B65 | COMB14 | 1,1 | 0 | -87,27 | 0 | -5,328 | 0 | -108,09 |
| STORY5 | B65 | COMB14 | 1,575 | 0 | -80,86 | 0 | -5,328 | 0 | -68,106 |
| STORY5 | B65 | COMB14 | 2,05 | 0 | -74,89 | 0 | -5,328 | 0 | -31,176 |

| | | | | | | | | | |
|--------|-----|--------|-------|---|---------|---|---------|---|---------|
| STORY5 | B65 | COMB14 | 2,525 | 0 | -70,43 | 0 | -5,328 | 0 | 3,276 |
| STORY5 | B65 | COMB14 | 3 | 0 | -31,09 | 0 | 4,717 | 0 | 35,703 |
| STORY5 | B65 | COMB14 | 3 | 0 | -67,48 | 0 | -5,328 | 0 | 35,97 |
| STORY5 | B65 | COMB14 | 3,475 | 0 | -28,15 | 0 | 4,717 | 0 | 49,832 |
| STORY5 | B65 | COMB14 | 3,95 | 0 | -23,69 | 0 | 4,717 | 0 | 62,202 |
| STORY5 | B65 | COMB14 | 4,425 | 0 | -17,72 | 0 | 4,717 | 0 | 72,095 |
| STORY5 | B65 | COMB14 | 4,9 | 0 | -11,3 | 0 | 4,717 | 0 | 78,935 |
| STORY5 | B65 | COMB14 | 5,375 | 0 | -6,37 | 0 | 4,717 | 0 | 83,071 |
| STORY5 | B65 | COMB14 | 5,85 | 0 | -278,33 | 0 | -20,845 | 0 | -65,348 |
| STORY5 | B65 | COMB14 | 5,85 | 0 | -2,94 | 0 | 4,717 | 0 | 85,223 |
| STORY5 | B65 | COMB14 | 5,9 | 0 | -148,83 | 0 | -45,324 | 0 | -131,94 |
| STORY5 | B65 | COMB14 | 5,9 | 0 | -278,06 | 0 | -20,845 | 0 | -51,438 |
| STORY5 | B65 | COMB14 | 6 | 0 | -148,33 | 0 | -45,324 | 0 | -117,08 |

Output Gaya Kolom K2 Lantai 1 As E/10

| Story | Column | Load | Loc | P | V2 | V3 | T | M2 | M3 |
|--------|--------|--------|-----|----------------|---------|--------|--------|----------------|----------------|
| STORY3 | C21 | COMB1 | 0 | -1089 | -21,02 | -1,93 | 0,106 | -3,354 | -33,211 |
| STORY3 | C21 | COMB1 | 1,4 | -1079,3 | -21,02 | -1,93 | 0,106 | -0,648 | -3,78 |
| STORY3 | C21 | COMB1 | 2,8 | -1069,6 | -21,02 | -1,93 | 0,106 | 2,059 | 25,651 |
| STORY3 | C21 | COMB2 | 0 | -1372,8 | -23,77 | -1,87 | 0,112 | -3,229 | -37,448 |
| STORY3 | C21 | COMB2 | 1,4 | -1364,5 | -23,77 | -1,87 | 0,112 | -0,611 | -4,164 |
| STORY3 | C21 | COMB2 | 2,8 | -1356,2 | -23,77 | -1,87 | 0,112 | 2,006 | 29,119 |
| STORY3 | C21 | COMB3 | 0 | -1318,7 | 4,47 | -68,29 | -0,756 | -113,13 | 10,121 |
| STORY3 | C21 | COMB3 | 1,4 | -1309,6 | 4,47 | -68,29 | -0,756 | -17,53 | 3,869 |
| STORY3 | C21 | COMB3 | 2,8 | -1300,4 | 4,47 | -68,29 | -0,756 | 78,072 | -2,383 |
| STORY3 | C21 | COMB4 | 0 | -1286,1 | -46,85 | -66,38 | -0,026 | -109,99 | -76,638 |
| STORY3 | C21 | COMB4 | 1,4 | -1277 | -46,85 | -66,38 | -0,026 | -17,059 | -11,041 |
| STORY3 | C21 | COMB4 | 2,8 | -1267,9 | -46,85 | -66,38 | -0,026 | 75,871 | 54,555 |
| STORY3 | C21 | COMB5 | 0 | -1317,2 | 0,01 | 62,47 | 0,253 | 103,218 | 2,765 |
| STORY3 | C21 | COMB5 | 1,4 | -1308,1 | 0,01 | 62,47 | 0,253 | 15,767 | 2,756 |
| STORY3 | C21 | COMB5 | 2,8 | -1299 | 0,01 | 62,47 | 0,253 | -71,685 | 2,746 |
| STORY3 | C21 | COMB6 | 0 | -1284,7 | -51,31 | 64,37 | 0,982 | 106,361 | -83,994 |
| STORY3 | C21 | COMB6 | 1,4 | -1275,5 | -51,31 | 64,37 | 0,982 | 16,237 | -12,155 |
| STORY3 | C21 | COMB6 | 2,8 | -1266,4 | -51,31 | 64,37 | 0,982 | -73,886 | 59,684 |
| STORY3 | C21 | COMB7 | 0 | -1356,2 | 62,78 | -24,75 | -1,255 | -41,075 | 108,766 |
| STORY3 | C21 | COMB7 | 1,4 | -1347,1 | 62,78 | -24,75 | -1,255 | -6,425 | 20,875 |
| STORY3 | C21 | COMB7 | 2,8 | -1337,9 | 62,78 | -24,75 | -1,255 | 28,224 | -67,016 |
| STORY3 | C21 | COMB8 | 0 | -1247,6 | -108,29 | -18,39 | 1,178 | -30,6 | -180,43 |
| STORY3 | C21 | COMB8 | 1,4 | -1238,5 | -108,29 | -18,39 | 1,178 | -4,856 | -28,827 |
| STORY3 | C21 | COMB8 | 2,8 | -1229,4 | -108,29 | -18,39 | 1,178 | 20,888 | 122,778 |
| STORY3 | C21 | COMB9 | 0 | -1355,7 | 61,44 | 14,48 | -0,952 | 23,83 | 106,559 |
| STORY3 | C21 | COMB9 | 1,4 | -1346,6 | 61,44 | 14,48 | -0,952 | 3,564 | 20,541 |
| STORY3 | C21 | COMB9 | 2,8 | -1337,5 | 61,44 | 14,48 | -0,952 | -16,702 | -65,477 |
| STORY3 | C21 | COMB10 | 0 | -1247,2 | -109,63 | 20,84 | 1,481 | 34,305 | -182,64 |
| STORY3 | C21 | COMB10 | 1,4 | -1238,1 | -109,63 | 20,84 | 1,481 | 5,133 | -29,161 |
| STORY3 | C21 | COMB10 | 2,8 | -1228,9 | -109,63 | 20,84 | 1,481 | -24,039 | 124,317 |
| STORY3 | C21 | COMB11 | 0 | -623,42 | 16,18 | -67,41 | -0,81 | -111,61 | 28,564 |
| STORY3 | C21 | COMB11 | 1,4 | -618,02 | 16,18 | -67,41 | -0,81 | -17,244 | 5,907 |
| STORY3 | C21 | COMB11 | 2,8 | -612,62 | 16,18 | -67,41 | -0,81 | 77,125 | -16,75 |
| STORY3 | C21 | COMB12 | 0 | -590,85 | -35,14 | -65,5 | -0,081 | -108,47 | -58,195 |
| STORY3 | C21 | COMB12 | 1,4 | -585,46 | -35,14 | -65,5 | -0,081 | -16,773 | -9,003 |
| STORY3 | C21 | COMB12 | 2,8 | -580,06 | -35,14 | -65,5 | -0,081 | 74,924 | 40,188 |

| | | | | | | | | | |
|--------|-----|--------|-----|---------|--------|--------|--------|---------|---------|
| STORY3 | C21 | COMB13 | 0 | -621,95 | 11,72 | 63,35 | 0,198 | 104,735 | 21,208 |
| STORY3 | C21 | COMB13 | 1,4 | -616,55 | 11,72 | 63,35 | 0,198 | 16,052 | 4,794 |
| STORY3 | C21 | COMB13 | 2,8 | -611,15 | 11,72 | 63,35 | 0,198 | -72,631 | -11,62 |
| STORY3 | C21 | COMB14 | 0 | -589,38 | -39,6 | 65,25 | 0,928 | 107,878 | -65,551 |
| STORY3 | C21 | COMB14 | 1,4 | -583,98 | -39,6 | 65,25 | 0,928 | 16,523 | -10,117 |
| STORY3 | C21 | COMB14 | 2,8 | -578,59 | -39,6 | 65,25 | 0,928 | -74,832 | 45,318 |
| STORY3 | C21 | COMB15 | 0 | -660,89 | 74,5 | -23,87 | -1,309 | -39,558 | 127,208 |
| STORY3 | C21 | COMB15 | 1,4 | -655,5 | 74,5 | -23,87 | -1,309 | -6,14 | 22,913 |
| STORY3 | C21 | COMB15 | 2,8 | -650,1 | 74,5 | -23,87 | -1,309 | 27,278 | -81,382 |
| STORY3 | C21 | COMB16 | 0 | -552,35 | -96,57 | -17,51 | 1,124 | -29,083 | -161,99 |
| STORY3 | C21 | COMB16 | 1,4 | -546,95 | -96,57 | -17,51 | 1,124 | -4,571 | -26,789 |
| STORY3 | C21 | COMB16 | 2,8 | -541,55 | -96,57 | -17,51 | 1,124 | 19,942 | 108,411 |
| STORY3 | C21 | COMB17 | 0 | -660,45 | 73,16 | 15,36 | -1,006 | 25,347 | 125,001 |
| STORY3 | C21 | COMB17 | 1,4 | -655,06 | 73,16 | 15,36 | -1,006 | 3,849 | 22,579 |
| STORY3 | C21 | COMB17 | 2,8 | -649,66 | 73,16 | 15,36 | -1,006 | -17,649 | -79,843 |
| STORY3 | C21 | COMB18 | 0 | -551,9 | -97,91 | 21,72 | 1,426 | 35,822 | -164,2 |
| STORY3 | C21 | COMB18 | 1,4 | -546,51 | -97,91 | 21,72 | 1,426 | 5,418 | -27,123 |
| STORY3 | C21 | COMB18 | 2,8 | -541,11 | -97,91 | 21,72 | 1,426 | -24,985 | 109,95 |
| STORY3 | C21 | D | 0 | -590,36 | -9,81 | -0,97 | 0,039 | -1,674 | -15,508 |
| STORY3 | C21 | D | 1,4 | -583,43 | -9,81 | -0,97 | 0,039 | -0,32 | -1,77 |
| STORY3 | C21 | D | 2,8 | -576,51 | -9,81 | -0,97 | 0,039 | 1,034 | 11,968 |
| STORY3 | C21 | EX | 0 | -0,57 | 1,72 | -50,29 | -0,388 | -83,211 | 2,829 |
| STORY3 | C21 | EX | 1,4 | -0,57 | 1,72 | -50,29 | -0,388 | -12,806 | 0,428 |
| STORY3 | C21 | EX | 2,8 | -0,57 | 1,72 | -50,29 | -0,388 | 57,599 | -1,973 |
| STORY3 | C21 | EY | 0 | -41,75 | 65,8 | -2,45 | -0,936 | -4,029 | 111,229 |
| STORY3 | C21 | EY | 1,4 | -41,75 | 65,8 | -2,45 | -0,936 | -0,603 | 19,116 |
| STORY3 | C21 | EY | 2,8 | -41,75 | 65,8 | -2,45 | -0,936 | 2,822 | -72,998 |
| STORY3 | C21 | L | 0 | -274,64 | -3,6 | -0,13 | 0,013 | -0,221 | -5,614 |
| STORY3 | C21 | L | 1,4 | -274,64 | -3,6 | -0,13 | 0,013 | -0,035 | -0,578 |
| STORY3 | C21 | L | 2,8 | -274,64 | -3,6 | -0,13 | 0,013 | 0,151 | 4,458 |
| STORY3 | C21 | SD | 0 | -187,48 | -5,2 | -0,41 | 0,036 | -0,722 | -8,214 |
| STORY3 | C21 | SD | 1,4 | -187,48 | -5,2 | -0,41 | 0,036 | -0,143 | -0,93 |
| STORY3 | C21 | SD | 2,8 | -187,48 | -5,2 | -0,41 | 0,036 | 0,437 | 6,354 |
| STORY3 | C21 | SPECX | 0 | 16,22 | 26,06 | 50,26 | 2,023 | 83,14 | 43,495 |
| STORY3 | C21 | SPECX | 1,4 | 16,22 | 26,06 | 50,26 | 2,023 | 12,79 | 7,093 |
| STORY3 | C21 | SPECX | 2,8 | 16,22 | 26,06 | 50,26 | 2,023 | 57,587 | 29,506 |
| STORY3 | C21 | SPECY | 0 | 45,02 | 70,06 | 15,94 | 3,486 | 26,382 | 118,541 |
| STORY3 | C21 | SPECY | 1,4 | 45,02 | 70,06 | 15,94 | 3,486 | 4,063 | 20,895 |
| STORY3 | C21 | SPECY | 2,8 | 45,02 | 70,06 | 15,94 | 3,486 | 18,263 | 77,852 |

Output Gaya Tangga 1

| Story | Beam | Load | Loc | P | V2 | V3 | T | M2 | M3 |
|--------|------|-------|-------|--------|---------------|----|---|----|---------------|
| STORY2 | D1 | DEAD | 0 | -7,52 | -15,73 | 0 | 0 | 0 | 0 |
| STORY2 | D1 | DEAD | 1,912 | -1,64 | -3,42 | 0 | 0 | 0 | 18,309 |
| STORY2 | D1 | DEAD | 3,824 | 4,25 | 8,88 | 0 | 0 | 0 | 13,086 |
| STORY2 | D1 | LIVE | 0 | -5,13 | -10,72 | 0 | 0 | 0 | 0 |
| STORY2 | D1 | LIVE | 1,912 | -1,18 | -2,46 | 0 | 0 | 0 | 12,598 |
| STORY2 | D1 | LIVE | 3,824 | 2,78 | 5,81 | 0 | 0 | 0 | 9,397 |
| STORY2 | D1 | COMB1 | 0 | -10,53 | -22,02 | 0 | 0 | 0 | 0 |
| STORY2 | D1 | COMB1 | 1,912 | -2,29 | -4,79 | 0 | 0 | 0 | 25,632 |
| STORY2 | D1 | COMB1 | 3,824 | 5,95 | 12,44 | 0 | 0 | 0 | 18,32 |
| STORY2 | D1 | COMB2 | 0 | -17,23 | -36,03 | 0 | 0 | 0 | 0 |
| STORY2 | D1 | COMB2 | 1,912 | -3,84 | -8,04 | 0 | 0 | 0 | 42,128 |
| STORY2 | D1 | COMB2 | 3,824 | 9,54 | 19,95 | 0 | 0 | 0 | 30,739 |
| STORY2 | B1 | DEAD | 0 | 0 | 9,85 | 0 | 0 | 0 | 13,086 |
| STORY2 | B1 | DEAD | 0,35 | 0 | 11,59 | 0 | 0 | 0 | 9,334 |
| STORY2 | B1 | DEAD | 0,7 | 0 | 13,33 | 0 | 0 | 0 | 4,972 |
| STORY2 | B1 | DEAD | 1,05 | 0 | 15,08 | 0 | 0 | 0 | 0 |
| STORY2 | B1 | LIVE | 0 | 0 | 6,44 | 0 | 0 | 0 | 9,397 |
| STORY2 | B1 | LIVE | 0,35 | 0 | 8,11 | 0 | 0 | 0 | 6,852 |
| STORY2 | B1 | LIVE | 0,7 | 0 | 9,79 | 0 | 0 | 0 | 3,719 |
| STORY2 | B1 | LIVE | 1,05 | 0 | 11,46 | 0 | 0 | 0 | 0 |
| STORY2 | B1 | COMB1 | 0 | 0 | 13,79 | 0 | 0 | 0 | 18,32 |
| STORY2 | B1 | COMB1 | 0,35 | 0 | 16,23 | 0 | 0 | 0 | 13,068 |
| STORY2 | B1 | COMB1 | 0,7 | 0 | 18,67 | 0 | 0 | 0 | 6,961 |
| STORY2 | B1 | COMB1 | 1,05 | 0 | 21,11 | 0 | 0 | 0 | 0 |
| STORY2 | B1 | COMB2 | 0 | 0 | 22,11 | 0 | 0 | 0 | 30,739 |
| STORY2 | B1 | COMB2 | 0,35 | 0 | 26,89 | 0 | 0 | 0 | 22,164 |
| STORY2 | B1 | COMB2 | 0,7 | 0 | 31,66 | 0 | 0 | 0 | 11,917 |
| STORY2 | B1 | COMB2 | 1,05 | 0 | 36,44 | 0 | 0 | 0 | 0 |