

DAFTAR PUSTAKA

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LAMPIRAN A

1. Kartu Asistensi



UNIVERSITAS
MERCU BUANA

KARTU ASISTENSI

NAMA
NIM
FAK/JUR.

R. ERICK PRIHARNA L.
41107120001
FTSP / TEKNIK SIPIL

MATA KULIAH
SMT/THN.AKAD
DOSEN

TUGAS AKHIR
2010 - 2011
Dr. Ir. RESMI BM., MS.

| NO | TGL | KETERANGAN | PARAF | NO | TGL | KETERANGAN | PARAF |
|----|-------|--|-------|----|-------|---|-------|
| 1 | 17/10 | - Gedung elips + 10lt - pembahasan teori | | 3 | 17/10 | - Tambahkan teori pegecekan simpagi - teruskan bab III | AS |
| | | lent, pelat balok kolom. - Perawatan geser balok → khusus - - - kolom | AS | | | - antara penjelasan dg diagram alir keterkaitan satu sama lain | |
| | | perbaikan khusus. | | 4 | 9/11 | OK diseminarkan | AS |
| 2 | 31/10 | - $A_g = \frac{P_u}{0,9(f_c' + \rho_s f_y)}$ - uraian prelimbales - kondisi runtuh | | 5 | 22/11 | - Pertut ed. sebelum penempatan F - perbaikan flowchart menentukan tul. last | |
| | | take work. - prelim kol. | AS | 6 | 20/11 | $l_n = \text{panjang bersih sisi}$ PSP teruskan | AS |
| | | dan dinding - dinding geser di sisi-sisinya | | 7 | 10/4 | - OK kolom, tanpa shear wall sesuai judul - lanjut ke beban gempa | AS |
| | | - bab III | | | | dit di kolom → $f_c' = 35 \text{ Mpa}$ $\rho = 3\%$ | |

LAMPIRAN B

- 1. Tabel Perhitungan Syarat SRPMK HBK Lantai
9**
- 2. Tabel Perhitungan Syarat SRPMK HBK Lantai
8**

PERHITUNGAN JUMLAH MOMEN NOMINAL PADA HUBUNGAN BALOK KOLOM (HBK)

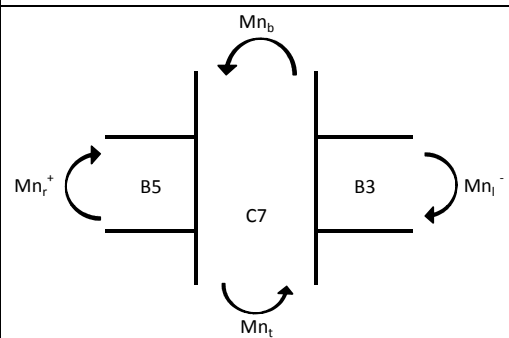
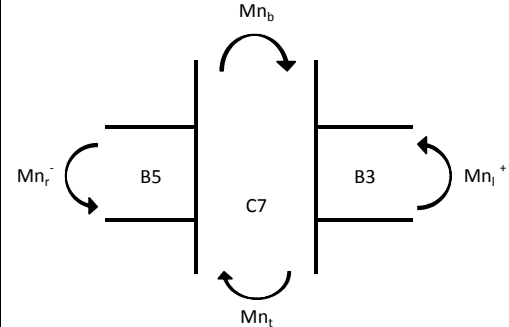
HB Kolom Tipe 1 Lantai 9
Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|---|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 390544472$ $Mn_l^- = 1118506325$ | $Mn_t = 730971567.5$ $Mn_b = 2016566333$ | $2747537900 > 1810860956$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1810860956$ $Mn_t \min = -205705376.9$ $\phi Mn_t \min = -164564301.5$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_l^+ = 593482405$ $Mn_r^- = 758612916$ | $Mn_t = 730971567.5$ $Mn_b = 2016566333$ | $2747537900 > 1622514386$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1622514386$ $Mn_t \min = -394051946.4$ $\phi Mn_t \min = -315241157.1$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

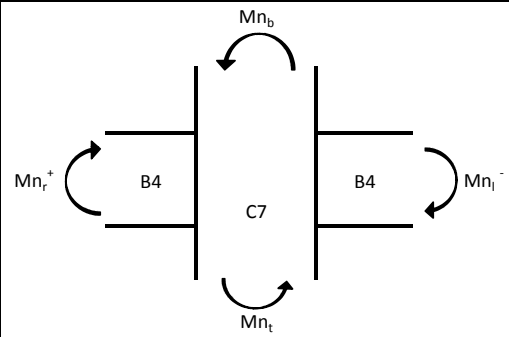
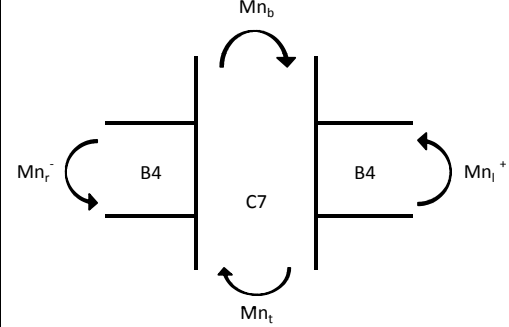
Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|---|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 731741589$ $Mn_l^- = 1254824822$ | $Mn_t = 946765802.5$ $Mn_b = 2546019621$ | $3492785424 > 2383879693$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 2383879693$ $Mn_t \min = -162139927.9$ $\phi Mn_t \min = -129711942.3$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_l^+ = 731699734$ $Mn_r^- = 1120156136$ | $Mn_t = 946765802.5$ $Mn_b = 2546019621$ | $3492785424 > 222227044$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 222227044$ $Mn_t \min = -323792577.5$ $\phi Mn_t \min = -259034062$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

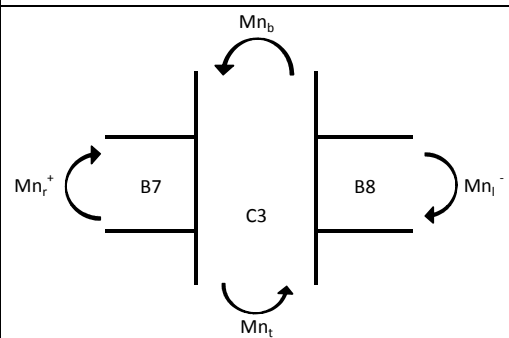
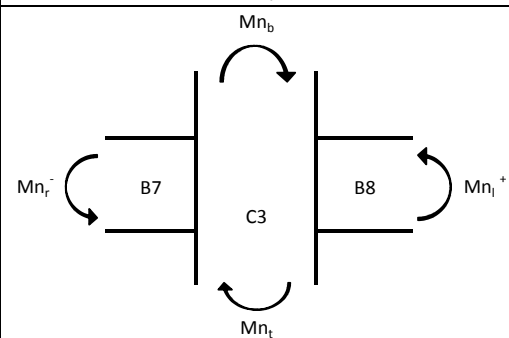
HB Kolom Tipe 2 Lantai 9
Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|---|--|---|--|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
|  | $Mn_r^+ = 329036741$ $Mn_l^- = 729160485$ | $Mn_t = 556813251.3$ $Mn_b = 1317990925$ | $1874804176 > 1269836671$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1269836671$ $Mn_t\ min = -48154253.98$ $\phi Mn_t\ min = -38523403.18$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |
|  | $Mn_l^+ = 395873575$ $Mn_r^- = 636987614$ | $Mn_t = 556813251.3$ $Mn_b = 1317990925$ | $1874804176 > 1239433427$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1239433427$ $Mn_t\ min = -78557498.25$ $\phi Mn_t\ min = -62845998.6$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |

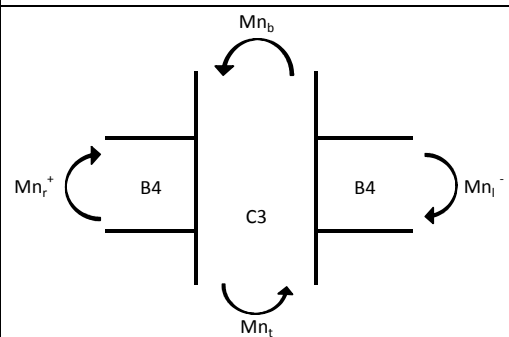
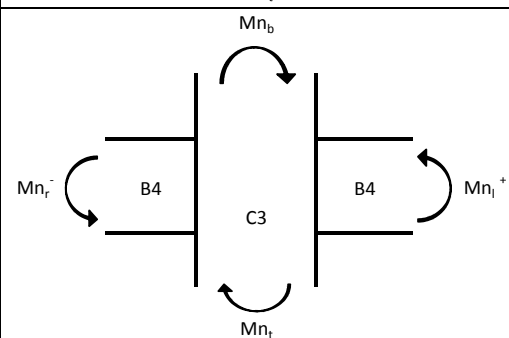
Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|---|--|---|--|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
|  | $Mn_l^+ = 395873575$ $Mn_r^- = 846150627$ | $Mn_t = 744893483.8$ $Mn_b = 1609066096$ | $2353959580 > 1490429042$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1490429042$ $Mn_t\ min = -118637054.6$ $\phi Mn_t\ min = -94909643.7$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |
|  | $Mn_l^+ = 514913798$ $Mn_r^- = 729160485$ | $Mn_t = 744893483.8$ $Mn_b = 1609066096$ | $2353959580 > 1492889139$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1492889139$ $Mn_t\ min = -116176956.9$ $\phi Mn_t\ min = -92941565.54$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |

HB Kolom Tipe 3 Lantai 9
Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|---|--|---|--|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
|  | $Mn_r^+ = 266911970$ $Mn_l^- = 758612916$ | $Mn_t = 509960937.5$ $Mn_b = 1382044275$ | $1892005213 > 1230629863$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1230629863$ $Mn_t\ min = -151414412$ $\phi Mn_t\ min = -121131529.6$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |
|  | $Mn_l^+ = 390544472$ $Mn_r^- = 514047514$ | $Mn_t = 509960937.5$ $Mn_b = 1382044275$ | $1892005213 > 1085510383$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1085510383$ $Mn_t\ min = -296533892.5$ $\phi Mn_t\ min = -237227114$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |

Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|---|---|---|--|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
|  | $Mn_r^+ = 395873575$ $Mn_l^- = 1254824822$ | $Mn_t = 680114816.3$ $Mn_b = 2004065840$ | $2684180656 > 1980838077$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1980838077$ $Mn_t\ min = -23227763.47$ $\phi Mn_t\ min = -18582210.77$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |
|  | $Mn_l^+ = 514913798$ $Mn_r^- = 729160485$ | $Mn_t = 680114816.3$ $Mn_b = 2004065840$ | $2684180656 > 1492889139$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom\ min.} = 1492889139$ $Mn_t\ min = -511176700.7$ $\phi Mn_t\ min = -408941360.5$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom\ min} - Mn_b)$ |

HB Kolom Tipe 1 Lantai 8

Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|--|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 390544471.7$ $Mn_l^- = 1118506325$ | $Mn_t = 1505038340$ $Mn_b = 730971567.5$ | $2236009908 > 1810860956$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1810860956$ $Mn_t \min = 1079889388$ $\phi Mn_t \min = 863911510.5$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_r^+ = 593482405.5$ $Mn_l^- = 758612916.3$ | $Mn_t = 1505038340$ $Mn_b = 730971567.5$ | $2236009908 > 1622514386$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1622514386$ $Mn_t \min = 891542818.6$ $\phi Mn_t \min = 713234254.9$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|---|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 731741588.6$ $Mn_l^- = 1254824822$ | $Mn_t = 1506374980$ $Mn_b = 946765802.5$ | $2453140783 > 2383879693$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 2383879693$ $Mn_t \min = 1437113891$ $\phi Mn_t \min = 1149691113$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_r^+ = 731699734.1$ $Mn_l^- = 1120156136$ | $Mn_t = 1506374980$ $Mn_b = 946765802.5$ | $2453140783 > 2222227044$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 2222227044$ $Mn_t \min = 1275461241$ $\phi Mn_t \min = 1020368993$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

HB Kolom Tipe 2 Lantai 8

Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|--|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 329036740.7$ $Mn_l^- = 729160485.1$ | $Mn_t = 1061025095$ $Mn_b = 556813251.3$ | $1617838346 > 1269836671$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1269836671$ $Mn_t \min = 713023419.8$ $\phi Mn_t \min = 570418735.8$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_l^+ = 395873574.6$ $Mn_r^- = 636987614.3$ | $Mn_t = 1061025095$ $Mn_b = 556813251.3$ | $1617838346 > 1239433427$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1239433427$ $Mn_t \min = 682620175.5$ $\phi Mn_t \min = 546096140.4$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|--|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 395873574.6$ $Mn_l^- = 846150626.7$ | $Mn_t = 1060588898$ $Mn_b = 744893483.8$ | $1805482381 > 1490429042$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1490429042$ $Mn_t \min = 745535557.9$ $\phi Mn_t \min = 596428446.3$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_l^+ = 514913797.6$ $Mn_r^- = 729160485.1$ | $Mn_t = 1060588898$ $Mn_b = 744893483.8$ | $1805482381 > 1492889139$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1492889139$ $Mn_t \min = 747995655.6$ $\phi Mn_t \min = 598396524.5$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

HB Kolom Tipe 3 Lantai 8

Arah Gempa X

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|--|--|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 266911969.6$ $Mn_i^- = 758612916.3$ | $Mn_t = 999175933.8$ $Mn_b = 509960937.5$ | $1509136871 > 1230629863$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1230629863$ $Mn_t \min = 720668925.5$ $\phi Mn_t \min = 576535140.4$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_i^+ = 390544471.7$ $Mn_r^- = 514047513.7$ | $Mn_t = 999175933.8$ $Mn_b = 509960937.5$ | $1509136871 > 1085510383$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1085510383$ $Mn_t \min = 575549445$ $\phi Mn_t \min = 460439556$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

Arah Gempa Y

| Sketsa Gambar HBK | Mn Balok | Mn Kolom | Syarat SRPMK | Keterangan |
|-------------------|---|---|---|--|
| | | | $\Sigma Mn_{Kolom} \geq 6/5 \Sigma Mn_{Balok}$ | |
| | $Mn_r^+ = 395873574.6$ $Mn_i^- = 1254824822$ 1650698397 | $Mn_t = 1316715750$ $Mn_b = 680114816.3$ | $1996830566 > 1980838077$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1980838077$ $Mn_t \min = 1300723260$ $\phi Mn_t \min = 1040578608$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |
| | $Mn_i^+ = 514913797.6$ $Mn_r^- = 729160485.1$ | $Mn_t = 1316715750$ $Mn_b = 680114816.3$ | $1996830566 > 1492889139$ Agar memenuhi syarat, maka : $\Sigma Mn_{Kolom \min} = 1492889139$ $Mn_t \min = 812774323.1$ $\phi Mn_t \min = 650219458.5$ | OK $(6/5 \Sigma Mn_{Balok})$ $(\Sigma Mn_{Kolom \min} - Mn_b)$ |

LAMPIRAN C

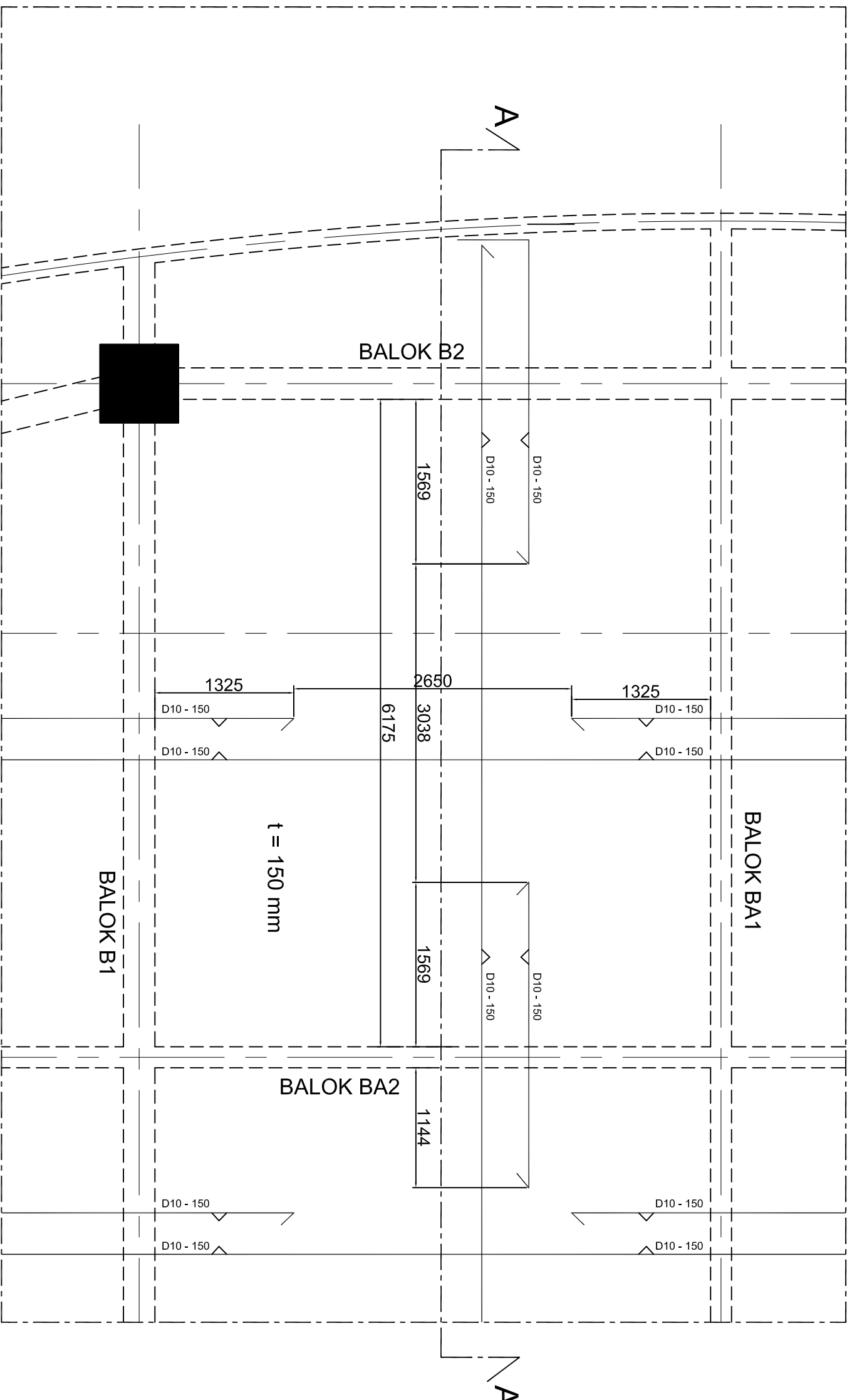
GAMBAR ARSITEKTUR

- 1. Gambar Tampak Bangunan**
- 2. Gambar Potongan Bangunan**
- 3. Gambar Denah Lantai 1 – 6**
- 4. Gambar Denah Lantai 7 – 10**

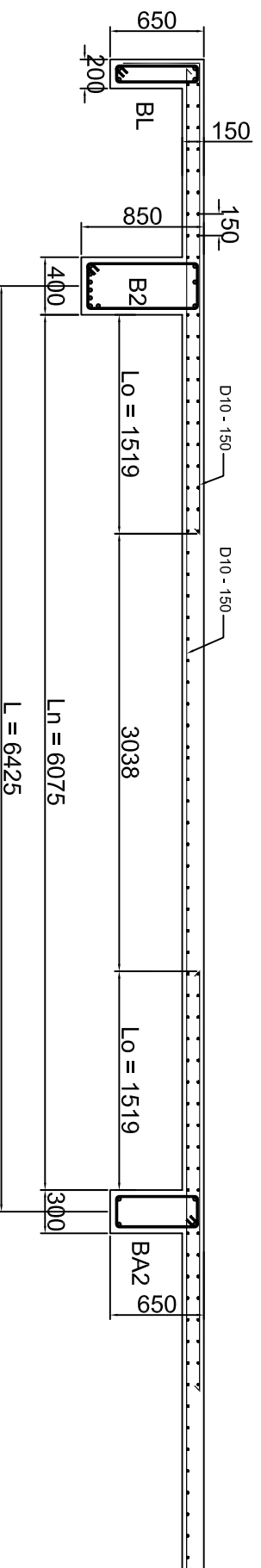
LAMPIRAN D

GAMBAR STRUKTUR

- 1. Penulangan Struktur Pelat lantai**
- 2. Penulangan Struktur Balok**
- 3. Penulangan Struktur Kolom**
- 4. Penulangan Struktur Portal As – D**



DENAH PENULANGAN PELAT LANTAI



POT. A - A



UNIVERSITAS
MERCU BUANA

| 2010 | NAMA | TGL | PARAF | NAMA GAMBAR : |
|-----------|-------|-----|-------|-------------------------|
| DIDESAIN | ERICK | | | PENULANGAN PELAT LANTAI |
| DIGAMBAR | ERICK | | | |
| DIPERIKSA | | | | |
| DISETUIJI | | | | |

NOMOR GAMBAR :

/ DWG/ JIX2011

REV :

00

TANGGAL : 1 SEPTEMBER 2011

COM.2a-DWG

SKALA :

A3

FILE GAMBAR :

SCHEDULE PENULANGAN BALOK

| Tipe Balok | Daerah Tumpuan Kiri | Daerah Lapangan | Daerah Tumpuan Kanan | | | | | | | | | | | | | | | | | | |
|---|--|--------------------|---|-------------------|--------------|---|-------------------|--|--------------------|------|--------|--|-------|--------|--|--------------------|------|--------|--|-------|--------|
| B1 (850 x 400) | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">9 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>5 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 9 D 25 | | Bawah | 5 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">3 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>6 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | | Bawah | 6 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">8 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>5 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 8 D 25 | | Bawah | 5 D 25 |
| | Tulangan Memanjang | Atas | 9 D 25 | | | | | | | | | | | | | | | | | | |
| | Bawah | 5 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 6 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 8 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 5 D 25 | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 100</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 100 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">2 Ø 10 - 200</td> </tr> </table> | Tulangan Sengkang | 2 Ø 10 - 200 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 100</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 200 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | | | | | | | | |
| B2 (850 x 400) | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">8 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 8 D 25 | | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">3 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>7 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | | Bawah | 7 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">8 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 8 D 25 | | Bawah | 4 D 25 |
| | Tulangan Memanjang | Atas | 8 D 25 | | | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 7 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 8 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 150</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 150 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">2 Ø 10 - 300</td> </tr> </table> | Tulangan Sengkang | 2 Ø 10 - 300 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 150</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 300 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | | | | | | | | |
| B3 (750 x 400) | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | | Bawah | 3 D 25 |
| | Tulangan Memanjang | Atas | 6 D 25 | | | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 6 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 150</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 150 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">2 Ø 10 - 300</td> </tr> </table> | Tulangan Sengkang | 2 Ø 10 - 300 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 150</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 300 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 150 | | | | | | | | | | | | | | | | | | | | |
| B4 (750 x 400) | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">7 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 7 D 25 | | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>5 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | | Bawah | 5 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td></td> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | | Bawah | 3 D 25 |
| | Tulangan Memanjang | Atas | 7 D 25 | | | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 5 D 25 | | | | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 6 D 25 | | | | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 100</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 100 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">2 Ø 10 - 300</td> </tr> </table> | Tulangan Sengkang | 2 Ø 10 - 300 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Tulangan Sengkang</td> <td style="width: 90%;">3 Ø 10 - 100</td> </tr> </table> | Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 300 | | | | | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | | | | | | | | | | | | | | | | | | | | |

SCHEDULE PENULANGAN BALOK

| Tipe Balok | Daerah Tumpuan Kiri | Daerah Lapangan | Daerah Tumpuan Kanan | | | | | | | | | | | | | | | |
|--------------------|--|--------------------|----------------------|--------|-------|--------|--|--------------------|------|--------|-------|--------|--|--------------------|------|--------|-------|--------|
| B5 (650 x 350) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 6 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 6 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | | Tulangan Sengkang | | | | | | | | | | | | | | | | |
| | 3 Ø 10 - 100 | 2 Ø 10 - 250 | 3 Ø 10 - 100 | | | | | | | | | | | | | | | |
| B6 (750 x 400) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 6 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 6 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | | Tulangan Sengkang | | | | | | | | | | | | | | | | |
| | 3 Ø 10 - 150 | 2 Ø 10 - 300 | 3 Ø 10 - 150 | | | | | | | | | | | | | | | |
| B7 (750 x 400) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">5 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 5 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">4 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 4 D 25 | Bawah | 2 D 25 |
| | Tulangan Memanjang | | Atas | 5 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 4 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | | Tulangan Sengkang | | | | | | | | | | | | | | | | |
| | 3 Ø 10 - 150 | 2 Ø 10 - 300 | 3 Ø 10 - 150 | | | | | | | | | | | | | | | |
| B8 (750 x 400) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">6 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 6 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 80%;">5 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 5 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 6 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 5 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | | Tulangan Sengkang | | | | | | | | | | | | | | | | |
| | 3 Ø 10 - 150 | 2 Ø 10 - 300 | 3 Ø 10 - 150 | | | | | | | | | | | | | | | |

SCHEDULE PENULANGAN BALOK

| Tipe Balok | Daerah Tumpuan Kiri | Daerah Lapangan | Daerah Tumpuan Kanan | | | | | | | | | | | | | | | |
|---------------------|--|--------------------|----------------------|--------|-------|--------|--|--------------------|------|--------|-------|--------|--|--------------------|------|--------|-------|--------|
| BA1 (750 x 350) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>2 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>2 D 25</td> </tr> <tr> <td>Bawah</td> <td>4 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 4 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>3 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 2 D 25 |
| | Tulangan Memanjang | | Atas | 2 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 4 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 150 | Tulangan Sengkang | 2 Ø 10 - 300 | | | | | | | | | | | | | | | |
| BA1A (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>5 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 5 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>3 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 5 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 150 | | | | | | | | | | | | | | | |
| BA2 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>5 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 5 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>5 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 5 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 5 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 5 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 150 | | | | | | | | | | | | | | | |
| BA3 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>4 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 4 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td>4 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 4 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 4 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 4 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |

SCHEDULE PENULANGAN BALOK

| Tipe Balok | Daerah Tumpuan Kiri | Daerah Lapangan | Daerah Tumpuan Kanan | | | | | | | | | | | | | | | |
|--------------------|--|--------------------|----------------------|--------|-------|--------|--|--------------------|------|--------|-------|--------|--|--------------------|------|--------|-------|--------|
| BA4 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 3 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |
| BA5 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 |
| | Tulangan Memanjang | | Atas | 2 D 25 | | | | | | | | | | | | | | |
| Bawah | | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |
| BA6 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 3 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |
| BA7 (750 x 350) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">2 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="text-align: center;">Tulangan Memanjang</td> <td style="text-align: center;">Atas</td> <td style="text-align: center;">3 D 25</td> </tr> <tr> <td style="text-align: center;">Bawah</td> <td style="text-align: center;">3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 3 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 150 | Tulangan Sengkang | 2 Ø 10 - 300 | | | | | | | | | | | | | | | |

SCHEDULE PENULANGAN BALOK

| Tipe Balok | Daerah Tumpuan Kiri | Daerah Lapangan | Daerah Tumpuan Kanan | | | | | | | | | | | | | | | |
|--------------------|--|--------------------|----------------------|--------|-------|--------|--|--------------------|------|--------|-------|--------|--|--------------------|------|--------|-------|--------|
| BA8 (650 x 300) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">3 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 3 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 2 D 25 | | | | | | | | | | | | | | |
| Bawah | | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 3 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |
| BA9 (750 x 350) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">4 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 4 D 25 | Bawah | 3 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">4 D 25</td> </tr> <tr> <td>Bawah</td> <td>3 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 4 D 25 | Bawah | 3 D 25 |
| | Tulangan Memanjang | | Atas | 4 D 25 | | | | | | | | | | | | | | |
| Bawah | | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 4 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 3 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 3 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 100 | | | | | | | | | | | | | | | |
| BL (650 x 200) | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 15%;">Tulangan Memanjang</td> <td style="width: 10%;">Atas</td> <td style="width: 75%;">2 D 25</td> </tr> <tr> <td>Bawah</td> <td>2 D 25</td> </tr> </table> | Tulangan Memanjang | Atas | 2 D 25 | Bawah | 2 D 25 |
| | Tulangan Memanjang | | Atas | 2 D 25 | | | | | | | | | | | | | | |
| Bawah | | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Memanjang | Atas | 2 D 25 | | | | | | | | | | | | | | | | |
| | Bawah | 2 D 25 | | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 250 | | | | | | | | | | | | | | | |
| Tulangan Sengkang | 2 Ø 10 - 100 | Tulangan Sengkang | 2 Ø 10 - 100 | | | | | | | | | | | | | | | |

SCHEDULE PENULANGAN KOLOM

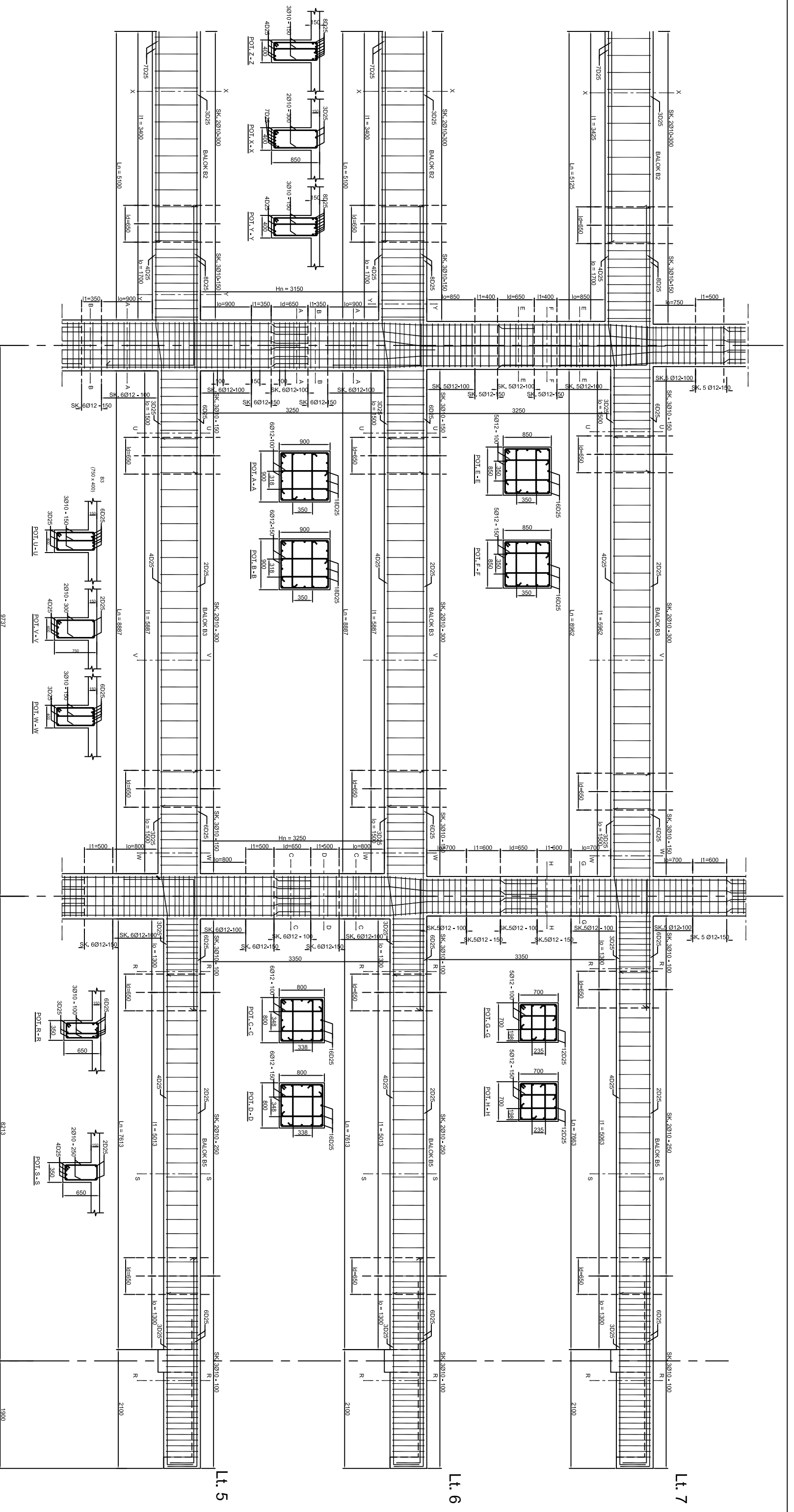
| Lantai | Kolom Tipe 1 (C7, C17) | Kolom Tipe 2 (C1, C2, C7, C10, C15, C16) | Kolom Tipe 3 (C3, C4, C5, C6, C11, C12, C13, C14) |
|--------|------------------------------|---|--|
| 10 | | | |
| | Tulangan Memanjang 18 D 40 | Tulangan Memanjang 12 D 40 | Tulangan Memanjang 14 D 40 |
| | Tulangan Sengkang | | Tulangan Sengkang |
| | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 |
| | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 |
| | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 |
| 9 | | | |
| | Tulangan Memanjang 8 D 25 | Tulangan Memanjang 8 D 25 | Tulangan Memanjang 8 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang |
| | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 |
| | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 |
| | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 |
| 8 | | | |
| | Tulangan Memanjang 16 D 25 | Tulangan Memanjang 12 D 25 | Tulangan Memanjang 18 D 28 |
| | Tulangan Sengkang | | Tulangan Sengkang |
| | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 |
| | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 |
| | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 |
| 7 | | | |
| | Tulangan Memanjang 12 D 25 | Tulangan Memanjang 12 D 25 | Tulangan Memanjang 18 D 28 |
| | Tulangan Sengkang | | Tulangan Sengkang |
| | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 | Sepanjang lo 5 Ø 12 - 100 |
| | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 | Sepanjang li 5 Ø 12 - 150 |
| | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 | Tepanjang la 5 Ø 12 - 100 |

SCHEDULE PENULANGAN KOLOM

| Lantai | Kolom Tipe 1 (C7, C17) | Kolom Tipe 2 (C1, C2, C7, C10, C15, C16) | Kolom Tipe 3 (C3, C4, C5, C6, C11, C12, C13, C14) | | | |
|--------|---------------------------|---|--|--------------|--------------------------|--------------|
| 6 | | | | | | |
| | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 12 D 25 | Tulangan Memanjang | 12 D 28 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang l _o | 6 Ø 12 - 100 | Sepanjang l _o | 5 Ø 12 - 100 | Sepanjang l _o | 5 Ø 12 - 100 |
| | Sepanjang l _i | 6 Ø 12 - 150 | Sepanjang l _i | 5 Ø 12 - 150 | Sepanjang l _i | 5 Ø 12 - 150 |
| | Tepanjang l _a | 6 Ø 12 - 100 | Tepanjang l _a | 5 Ø 12 - 100 | Tepanjang l _a | 5 Ø 12 - 100 |
| 5 | | | | | | |
| | Tulangan Memanjang | 18 D 25 | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 8 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang l _o | 6 Ø 12 - 100 | Sepanjang l _o | 6 Ø 12 - 100 | Sepanjang l _o | 5 Ø 12 - 100 |
| | Sepanjang l _i | 6 Ø 12 - 150 | Sepanjang l _i | 6 Ø 12 - 150 | Sepanjang l _i | 5 Ø 12 - 150 |
| | Tepanjang l _a | 6 Ø 12 - 100 | Tepanjang l _a | 6 Ø 12 - 100 | Tepanjang l _a | 5 Ø 12 - 100 |
| 4 | | | | | | |
| | Tulangan Memanjang | 18 D 25 | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 8 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang l _o | 6 Ø 12 - 100 | Sepanjang l _o | 6 Ø 12 - 100 | Sepanjang l _o | 5 Ø 12 - 100 |
| | Sepanjang l _i | 6 Ø 12 - 150 | Sepanjang l _i | 6 Ø 12 - 150 | Sepanjang l _i | 5 Ø 12 - 150 |
| | Tepanjang l _a | 6 Ø 12 - 100 | Tepanjang l _a | 6 Ø 12 - 100 | Tepanjang l _a | 5 Ø 12 - 100 |

SCHEDULE PENULANGAN KOLOM

| Lantai | Kolom Tipe 1 (C7, C17) | Kolom Tipe 2 (C1, C2, C7, C10, C15, C16) | Kolom Tipe 3 (C3, C4, C5, C6, C11, C12, C13, C14) | | | |
|--------|---------------------------|---|--|--------------|--------------------|--------------|
| 3 | | | | | | |
| | Tulangan Memanjang | 20 D 25 | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 12 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang lo | 7 Ø 12 - 100 | Sepanjang lo | 6 Ø 12 - 100 | Sepanjang lo | 5 Ø 12 - 100 |
| | Sepanjang li | 7 Ø 12 - 150 | Sepanjang li | 6 Ø 12 - 150 | Sepanjang li | 5 Ø 12 - 150 |
| | Tepanjang la | 7 Ø 12 - 100 | Tepanjang la | 6 Ø 12 - 100 | Tepanjang la | 5 Ø 12 - 100 |
| 2 | | | | | | |
| | Tulangan Memanjang | 22 D 25 | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 12 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang lo | 7 Ø 12 - 100 | Sepanjang lo | 6 Ø 12 - 100 | Sepanjang lo | 5 Ø 12 - 100 |
| | Sepanjang li | 7 Ø 12 - 150 | Sepanjang li | 6 Ø 12 - 150 | Sepanjang li | 5 Ø 12 - 150 |
| | Tepanjang la | 7 Ø 12 - 100 | Tepanjang la | 6 Ø 12 - 100 | Tepanjang la | 5 Ø 12 - 100 |
| 1 | | | | | | |
| | Tulangan Memanjang | 22 D 25 | Tulangan Memanjang | 16 D 25 | Tulangan Memanjang | 12 D 25 |
| | Tulangan Sengkang | | Tulangan Sengkang | | Tulangan Sengkang | |
| | Sepanjang lo | 7 Ø 12 - 100 | Sepanjang lo | 6 Ø 12 - 100 | Sepanjang lo | 5 Ø 12 - 100 |
| | Sepanjang li | 7 Ø 12 - 150 | Sepanjang li | 6 Ø 12 - 150 | Sepanjang li | 5 Ø 12 - 150 |
| | Tepanjang la | 7 Ø 12 - 100 | Tepanjang la | 6 Ø 12 - 100 | Tepanjang la | 5 Ø 12 - 100 |





PORTAL AS D

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|  <p>UNIVERSITAS MERCU BUANA</p> | |  <p>UNIVERSITAS MERCU BUANA</p> | |
| 2010 | NAMA | TGL | PARAF |
| DIDESAIN | ERICK | | |
| DIGAMBAR | ERICK | | |
| DIPERIKSA | | | |
| DISETUJUI | | | |
| NIMOR GAMBAR : / DWG/ IN/2011 | | DETAIL PORTAL AS - D | |
| TANGGAL : 1 SEPTEMBER 2011 | | SKALA : A3 FILE GAMBAR : | |
| COM/2a-DWG | | REV : 00 | |