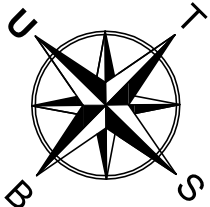


DAFTAR ISI GAMBAR KERJA

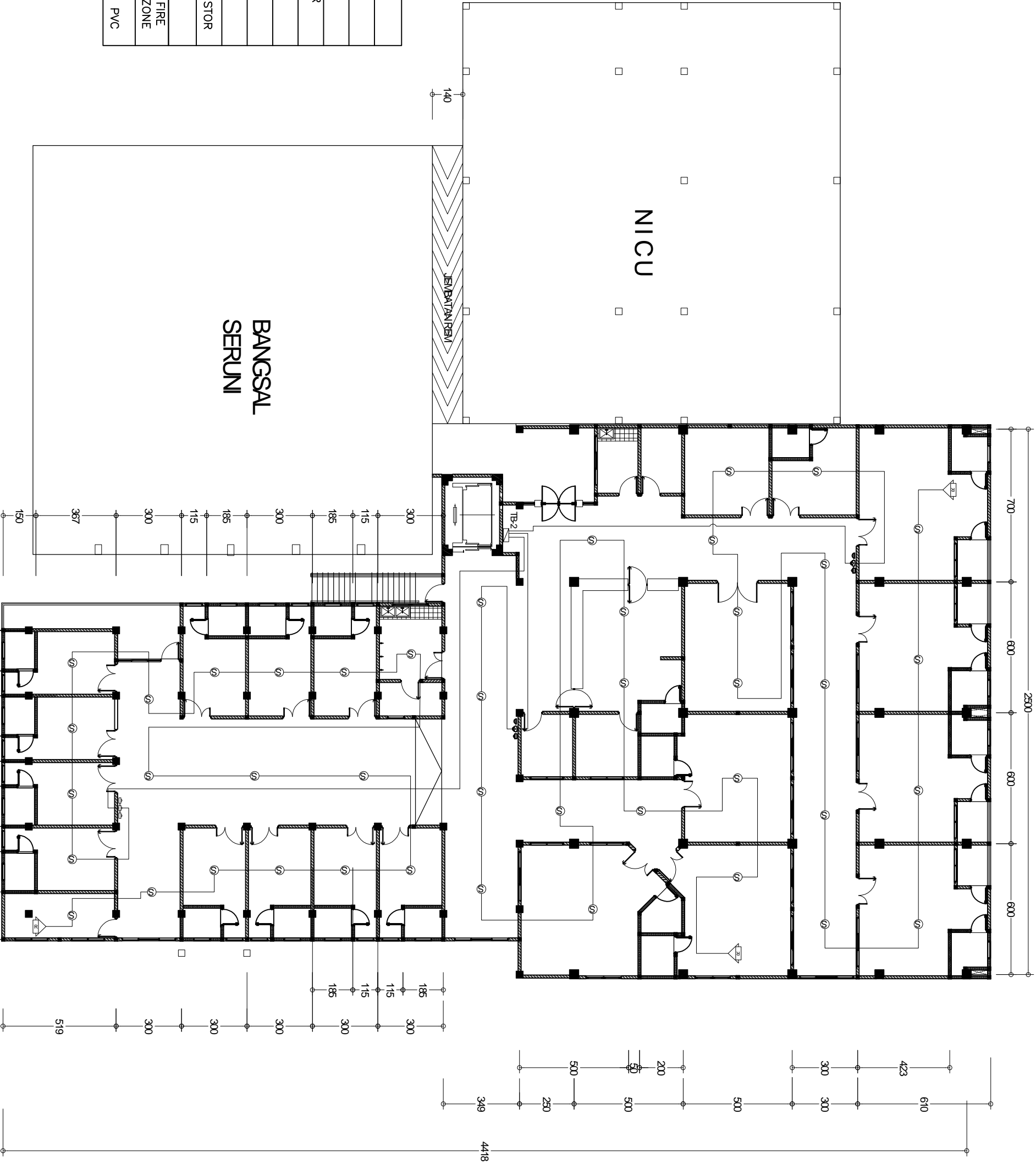
NO	KODE	GAMBAR
C	PEKERJAAN MEKANIKAL ELEKTRIKAL (ME)	
01	ME	DENAH INSTALASI FIRE ALARM LANTAI 2
02	ME	SINGLE DIAGRAM FIRE ALARM LANTAI 2
03	ME	DENAH INSTALASI TATA SUARA LANTAI 2
04	ME	DIAGRAM SATU GARIS TATA SUARA LANTAI 2
05	ME	DENAH INSTALASI TELEPHONE LANTAI 2
06	ME	DIAGRAM SATU GARIS SISTIM TELEPHONE LANTAI 2
07	ME	DENAH INSTALASI STOP KONTAK LANTAI 2
08	ME	DENAH INSTALASI PENERANGAN LANTAI 2
09	ME	DENAH INSTALASI TATA UDARA/AC DAN PAR LANTAI 2
10	ME	DENAH INSTALASI PIPA GAS O2 LANTAI 2
10.b	ME	DENAH INSTALASI PIPA GAS O2 LANTAI 1
11	ME	DETAIL PEMASANGAN FITXURE FIRE ALARM
12	ME	DENAH INSTALASI PIPA AIR BERSIH LANTAI 2
13	ME	DENAH INSTALASI PIPA AIR BERSIH LAVATORY
14	ME	DENAH INSTALASI PIPA AIR BERSIH
15	ME	DENAH INSTALASI PIPA AIR BERSIH
16	ME	DENAH INSTALASI PIPA AIR KOTOR DAN AIR BEKAS LANTAI 2
17	ME	DENAH INSTALASI PIPA AIR BERSIH PANAS LANTAI 2
18	ME	DENAH INSTALASI PIPA AIR BERSIH DAN PENEMPATAN ROOFTANK
19	ME	REKAPTULASI BEBAN TERMINAL BOK
20	ME	REKAPTULASI BEBAN TERMINAL BOK

NO	KODE	GAMBAR
C	PEKERJAAN MEKANIKAL ELEKTRIKAL (ME)	
21	ME	REKAPTULASI BEBAN TERMINAL BOK
22	ME	REKAPTULASI BEBAN TERMINAL BOK
23	ME	REKAPTULASI BEBAN LIGHTING PANEL - B
24	ME	REKAPTULASI BEBAN POWER PANEL - B
25	ME	REKAPTULASI BEBAN LIGHTING PANEL - A
26	ME	REKAPTULASI BEBAN POWER PANEL - A
27	ME	POMPA BOSTER 2
28	ME	POMPA BOSTER 3
29	ME	POMPA BOSTER 4
30	ME	SISTIM DISTRIBUSI POWER PANEL LISTRIK
31	ME	DENAH INSTALASI PIPA AIR BERSIH DAN PENEMPATAN ROOFTANK
32	ME	DENAH INSTALASI PIPA AIR BERSIH DAN PENEMPATAN ROOFTANK
33	ME	DENAH PENANGKAL PETIR
34	ME	TAMPAK PENANGKAL PETIR
35	ME	TAMPAK PENANGKAL PETIR
36	ME	DETAIL PENANGKAL PETIR



CODE	KETERANGAN
☉	RATE OF RISE HEAT DETECTOR
⊙	SMOKE DETECTOR
⊙	FIXED TEMPERATUR DETECTOR
💡	ALARM BELL
🔔	ALARM LAMP
🚒	BRAKE GLASS
⚡	END OF LINE RESISTOR
📡	TERMINAL BOX
🚒	MASTER CONTROL FIRE ALARM (MCFA) 6 ZONE
—	INSTALASI KABEL NYA 1,5 MM2 DLM PVC

LEGENDA :

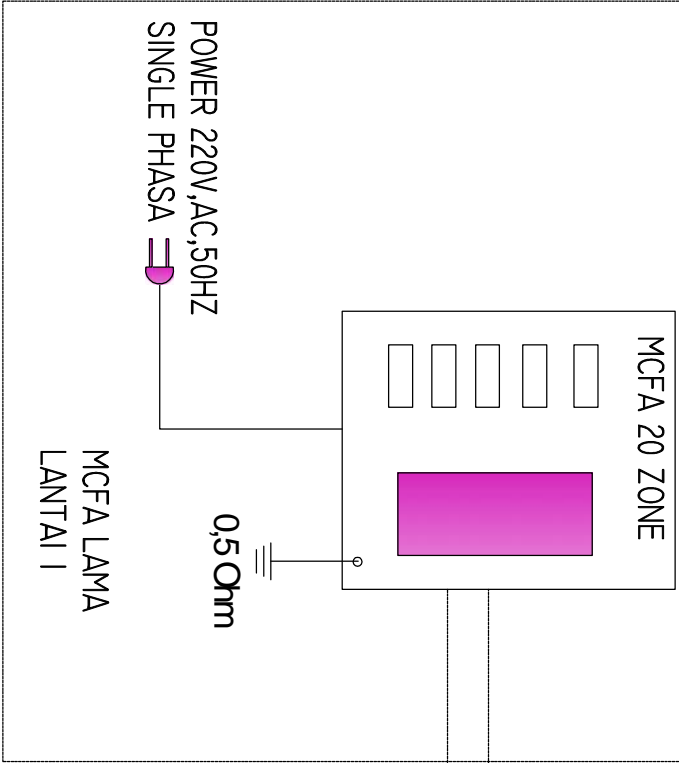









DENAH INSTALASI FIRE ALARM
GEDUNG PERAWATAN LANTAI - 2

BARU

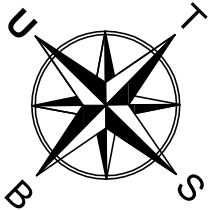
SKALA 1 : 200

KETERANGAN
POWER 220V,AC,50HZ,1 PHASA
NI-CD BATTERY 24, V DC, 0,45 AH
CIRCUIT VOLT 5, 28, 48 V DC, 24 VAC
NOMINAL ALARM FIRIFICATION TIME 60 SEC



LOKASI	ZONE	 ANNUNCIATOR	 TERMINAL BOX	 SMOKE DETECTOR	 BREAK GLASS	 ALARM BELL	 ALARM LAMP	 END OF LINE	KETERANGAN
LANTAI 2	3			18					INSTALASI KABEL DLM PIPA PVC HIGHT IMPAC 20MM (3X1,5 MM²)
	2			12	3	3	3	3	
	1			13					
JUMLAH	3		1	43	3	3	3	3	

SINGLE DIAGRAM FIRE ALARM
LANTAI 02
BARU
SKALA 1 :NTS

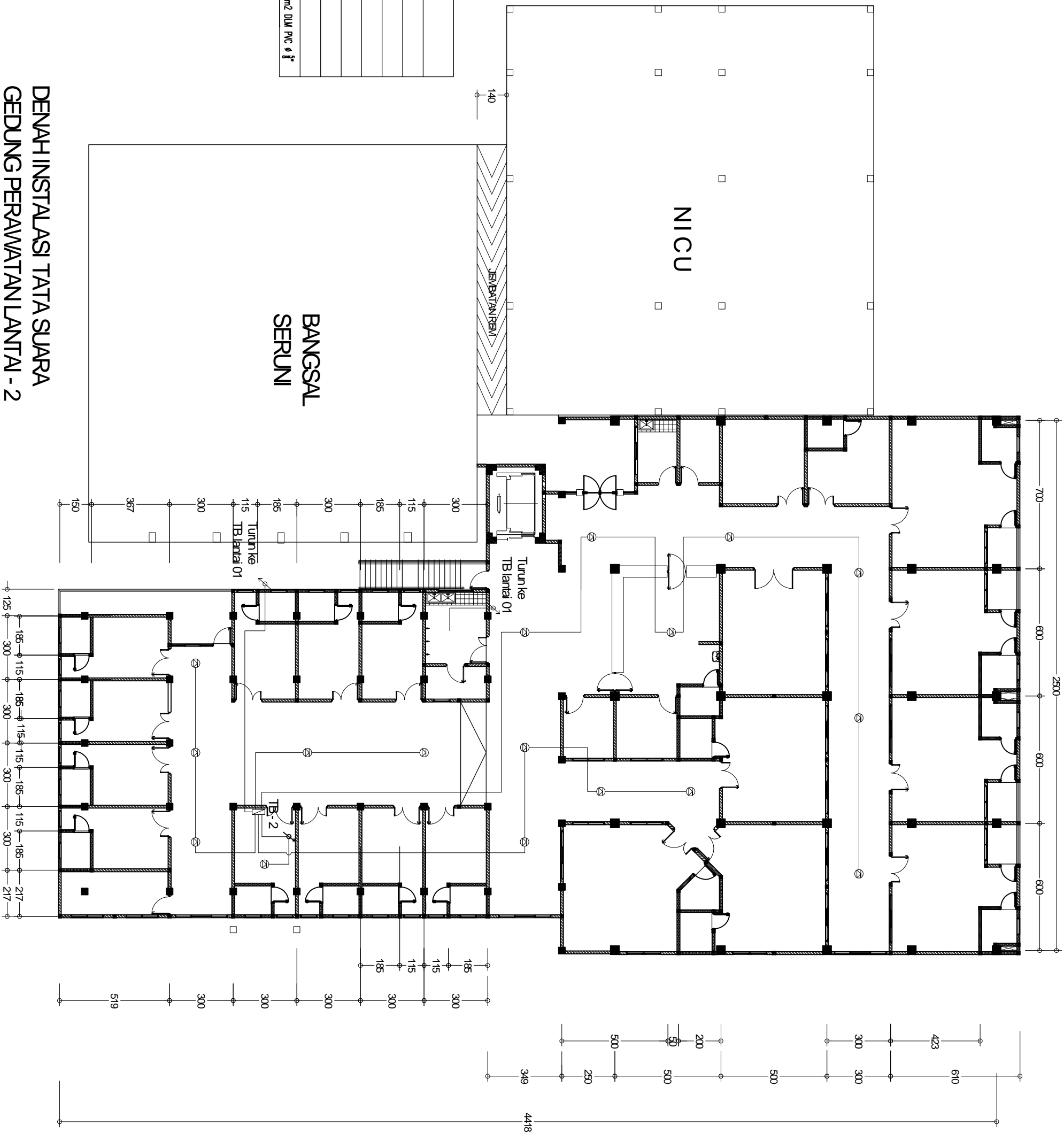


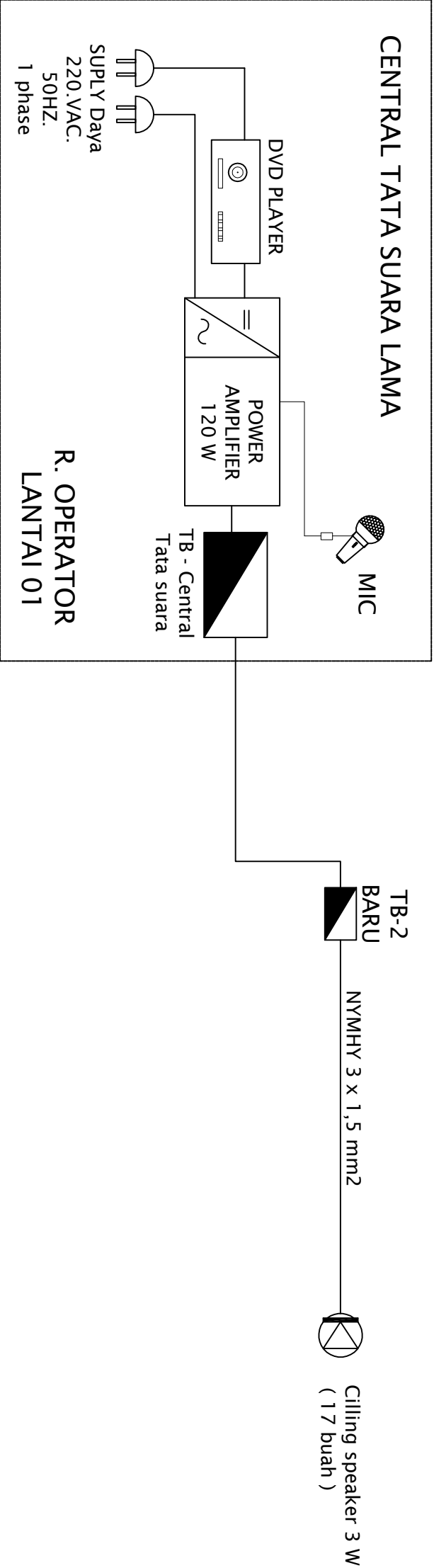
CODE	KETERANGAN
⊙	CEILING SPEAKER 3W
◁	COLUMN SPEAKER 20W
♂	VOLUME CONTROL 6W
♂	VOLUME CONTROL 30W
☐	TERMINAL BOX SOUND SYSTEM
■	CENTRAL SOUND SYSTEM
—	INSTALASI KABEL NMHNY 2X 1,5 mm ² DLM PVC Ø 8"

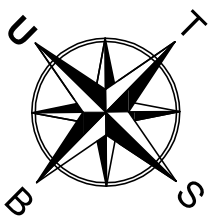
DENAH INSTALASI TATA SUARA
GEDUNG PERAWATAN LANTAI - 2




BARU

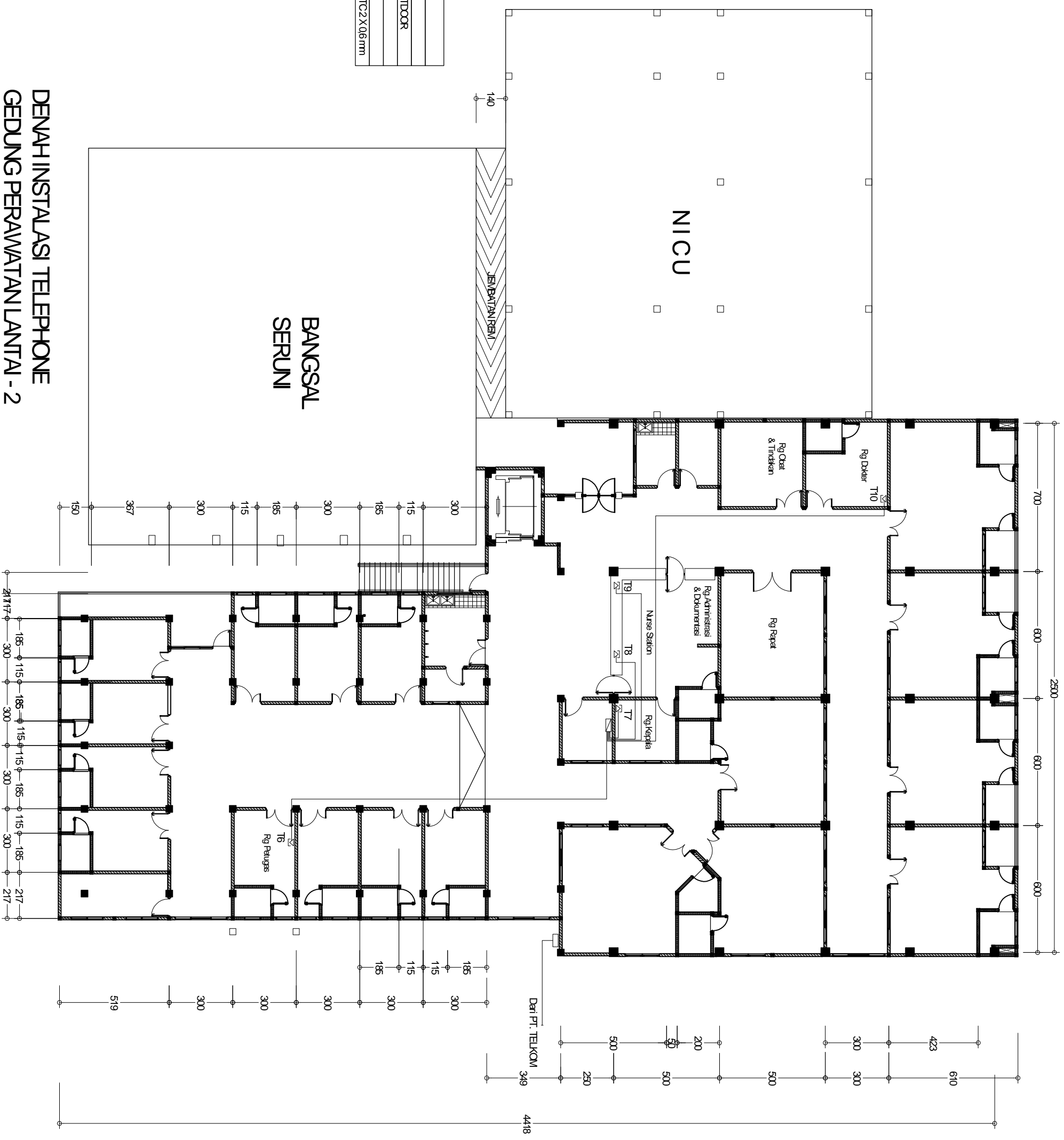
SKALA 1 : 200







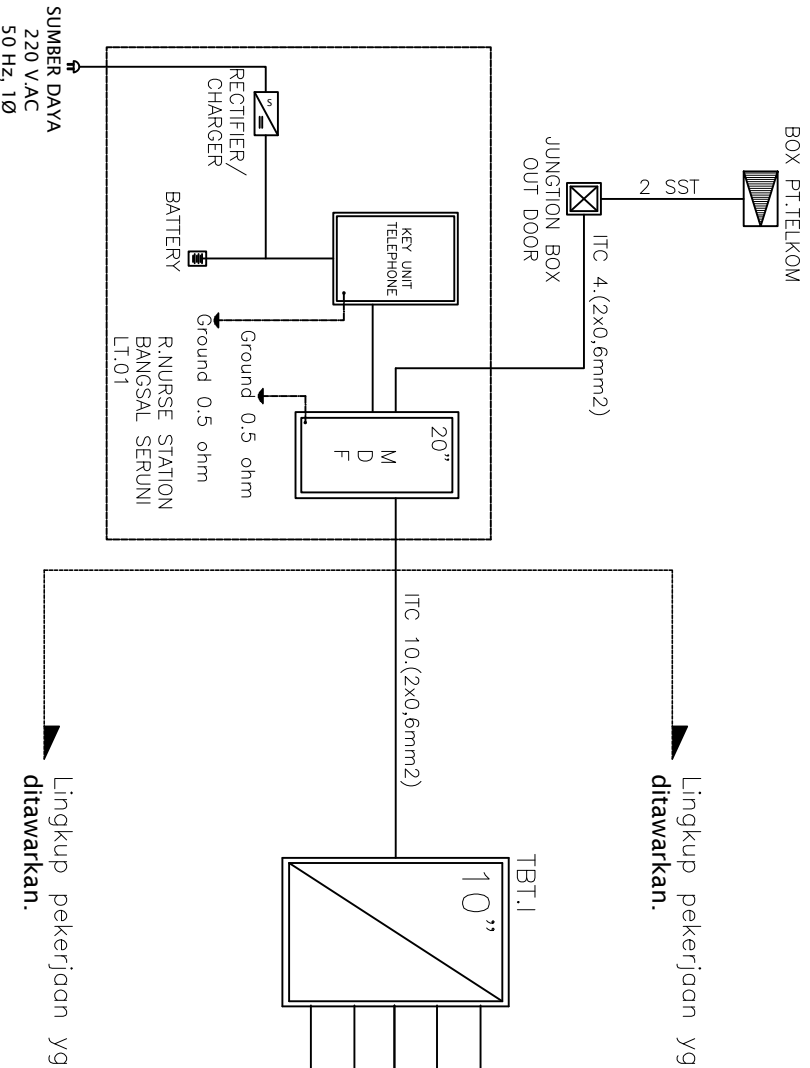
CODE	KETERANGAN
2/	OUTLET TELEPHONE
	TERMINAL BOX TELEPHONE OUTDOOR
	TERMINAL BOX INDOOR
	KEY CENTRAL UNIT (PABX)
—	KABEL INSTALASI TELEPHONE (TC 2 X 0,6 mm)



DENAH INSTALASI TELEPHONE GEDUNG PERAWATAN LANTAI - 2

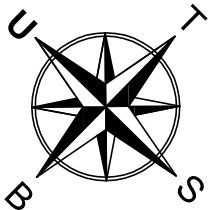
BARU

SKALA 1 : 200



OUTLET	KETERANGAN	JUMLAH
	R. Petugas	1
	R. Kepala	1
	R. Nurse Station gedung ICU	1
	R. Nurse Station gedung ICU	1
	R. Dokter	1
TOTAL EXTENSION		5

DIAGRAM SATU GARIS SISTIM
TELEPHONE LANTAI 02

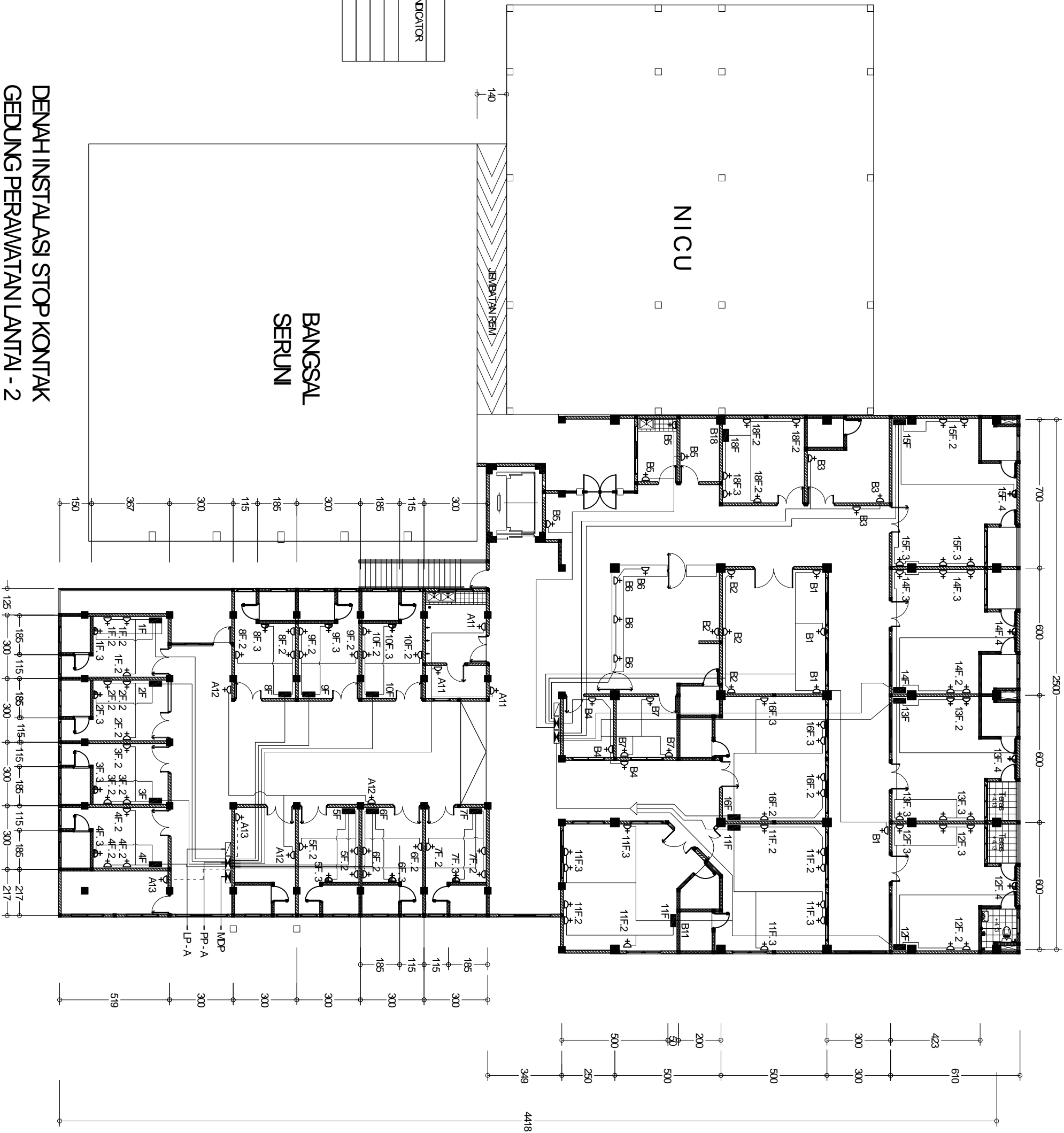


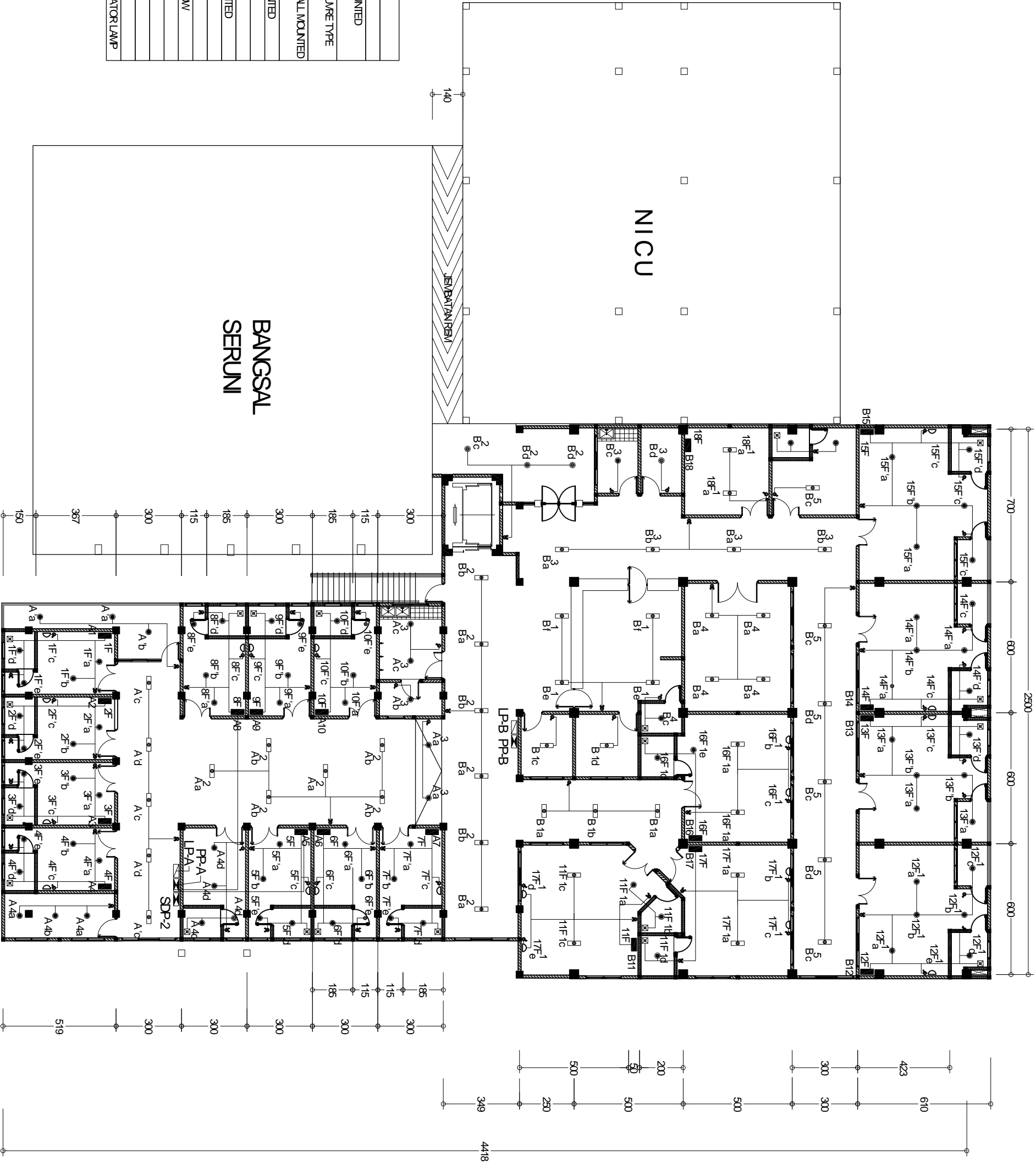
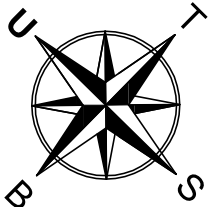
CODE	KETERANGAN
Δ	STOP KONTAK AC, TYPE 3KAKI INDICATOR
■	FUSE BAK KAWAR IMP
⊞	POWER PANEL
▤	LIGHTING PANEL
—	KABEL INSTALASI STOP KONTAK

DENAH INSTALASI STOP KONTAK
GEDUNG PERAWATAN LANTAI - 2

BARU

SKALA 1 : 200

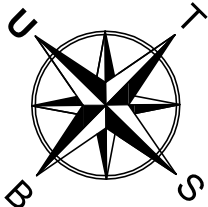




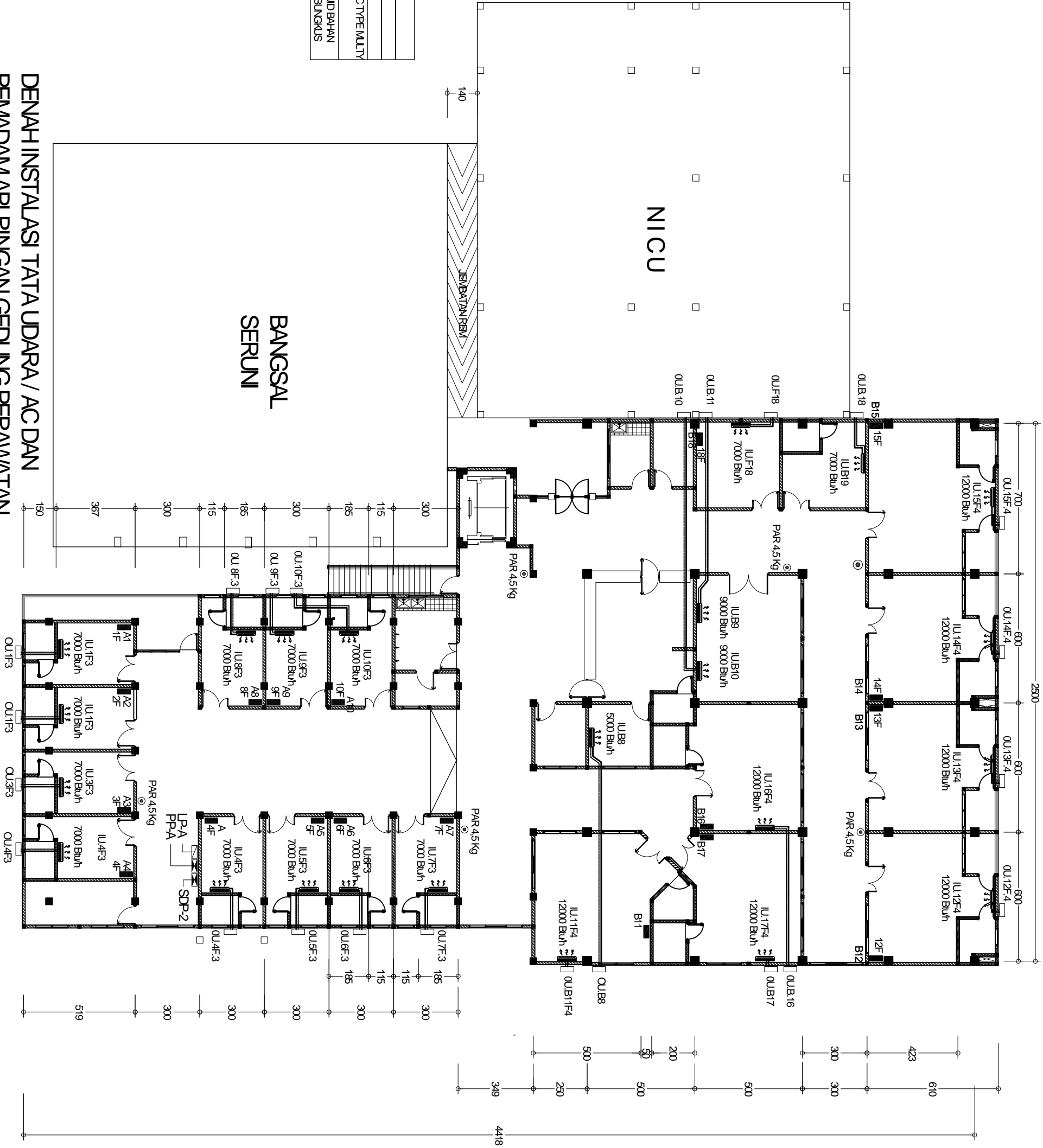
DENAH INSTALASI PENERANGAN
GEDUNG PERAWATAN LANTAI - 2

BARU

SKALA 1 : 200

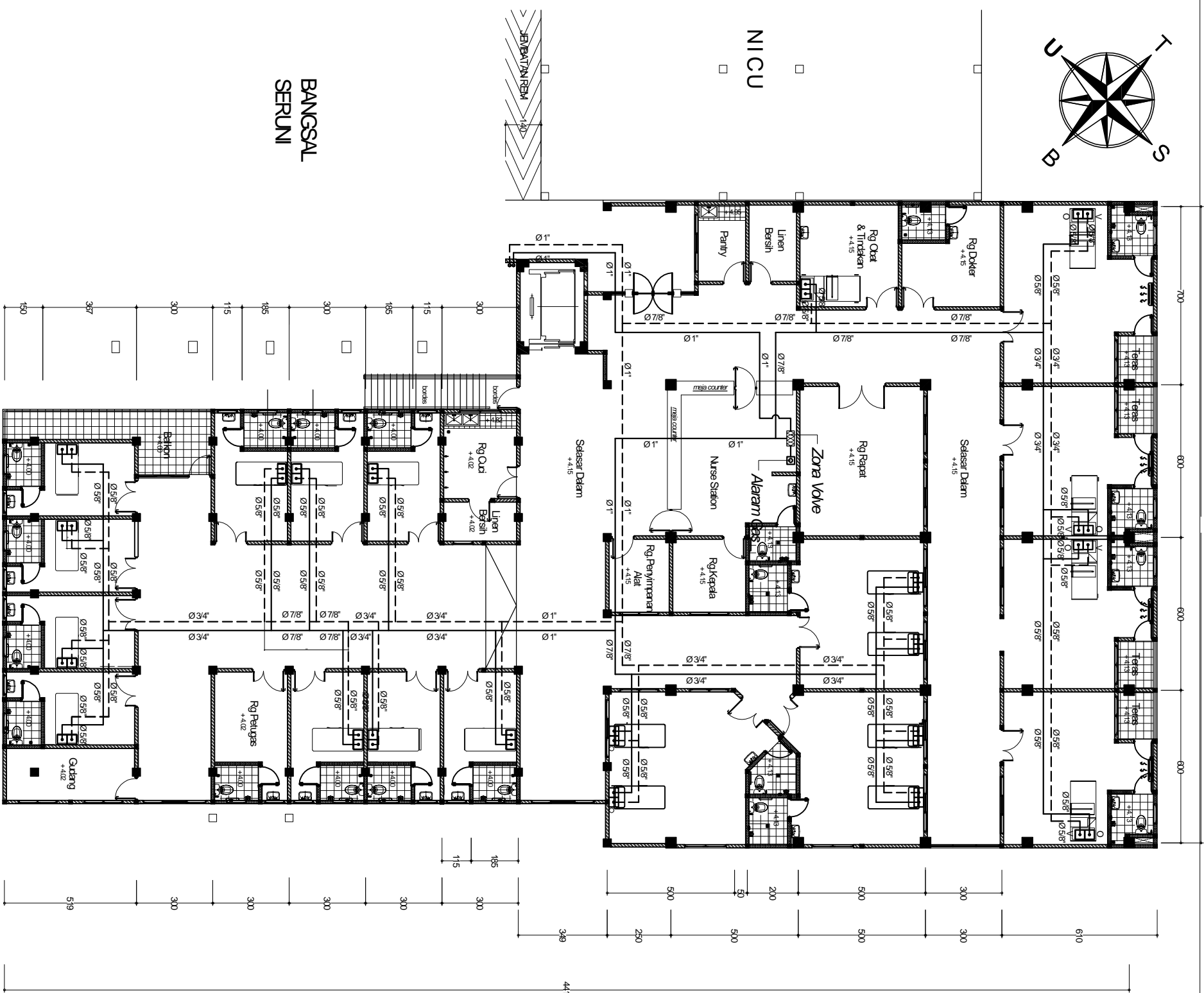






CODE	KETERANGAN
☐	INDOOR UNIT AC
☐	OUTDOOR UNIT AC
⊙	PEWADAM API RINGANKELAS ABC TYPE MULTI PURPOSE KAPASITAS 4,5 KG
—	INSTALASI PIPA AC GAS DAN LIQUID BAHAN TEMBAGA DENGAN ISOLASI PENBUNGUSS



BARU

SKALA 1 : 200



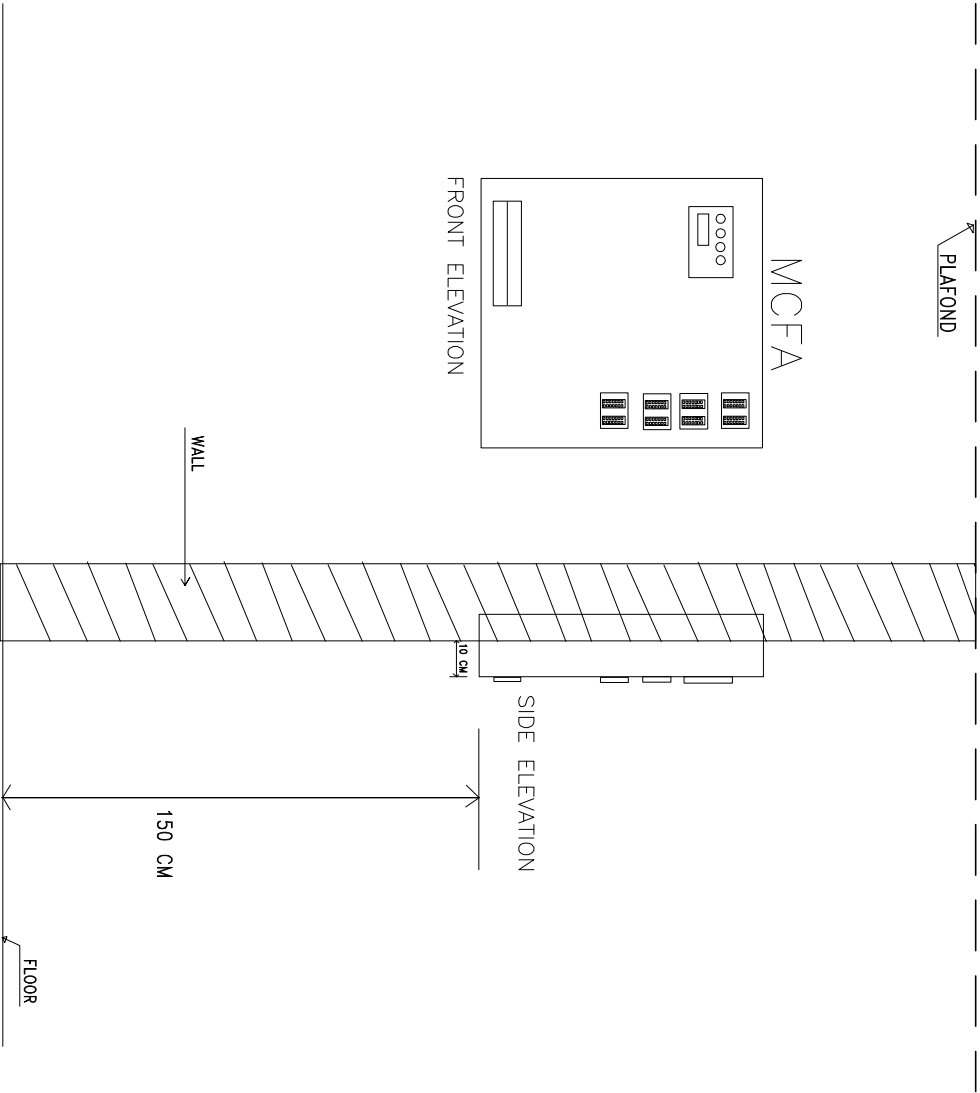
CODE	KETERANGAN
—	Instalasi Pipa O ₂
---	Instalasi Pipa Vacuum/Suction
	Zara Valve
	Alarm Gas
	Outlet Oxygent (O ₂)
	Outlet Vacuum (suction)

NICU

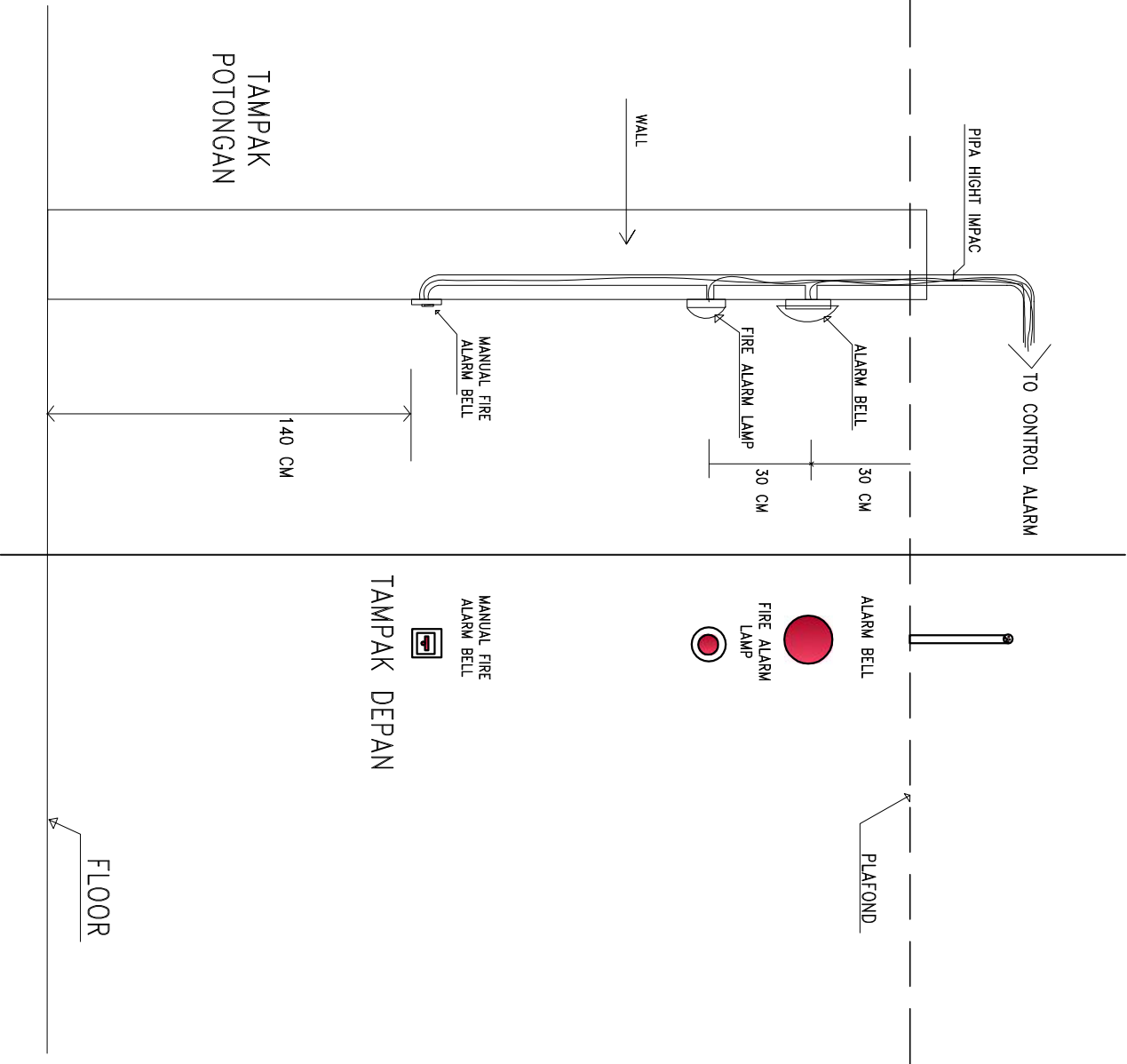
DENAH INSTALASI PIPA GAS O2 GEDUNG PERAWATAN LANTAI - 2

BAWL

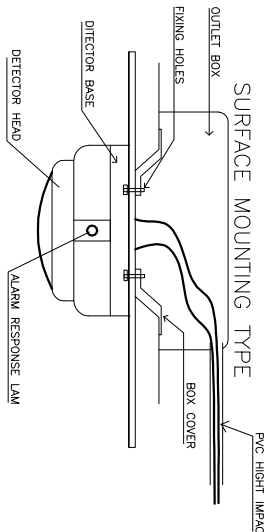
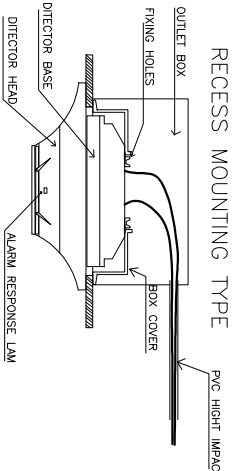
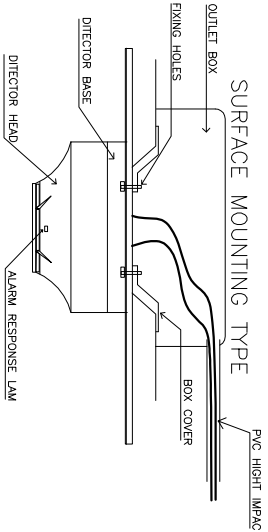
SKALA 1:100



DETAIL INSTALATION OF (MCFA)
MASTER CONTROL FIRE ALARM



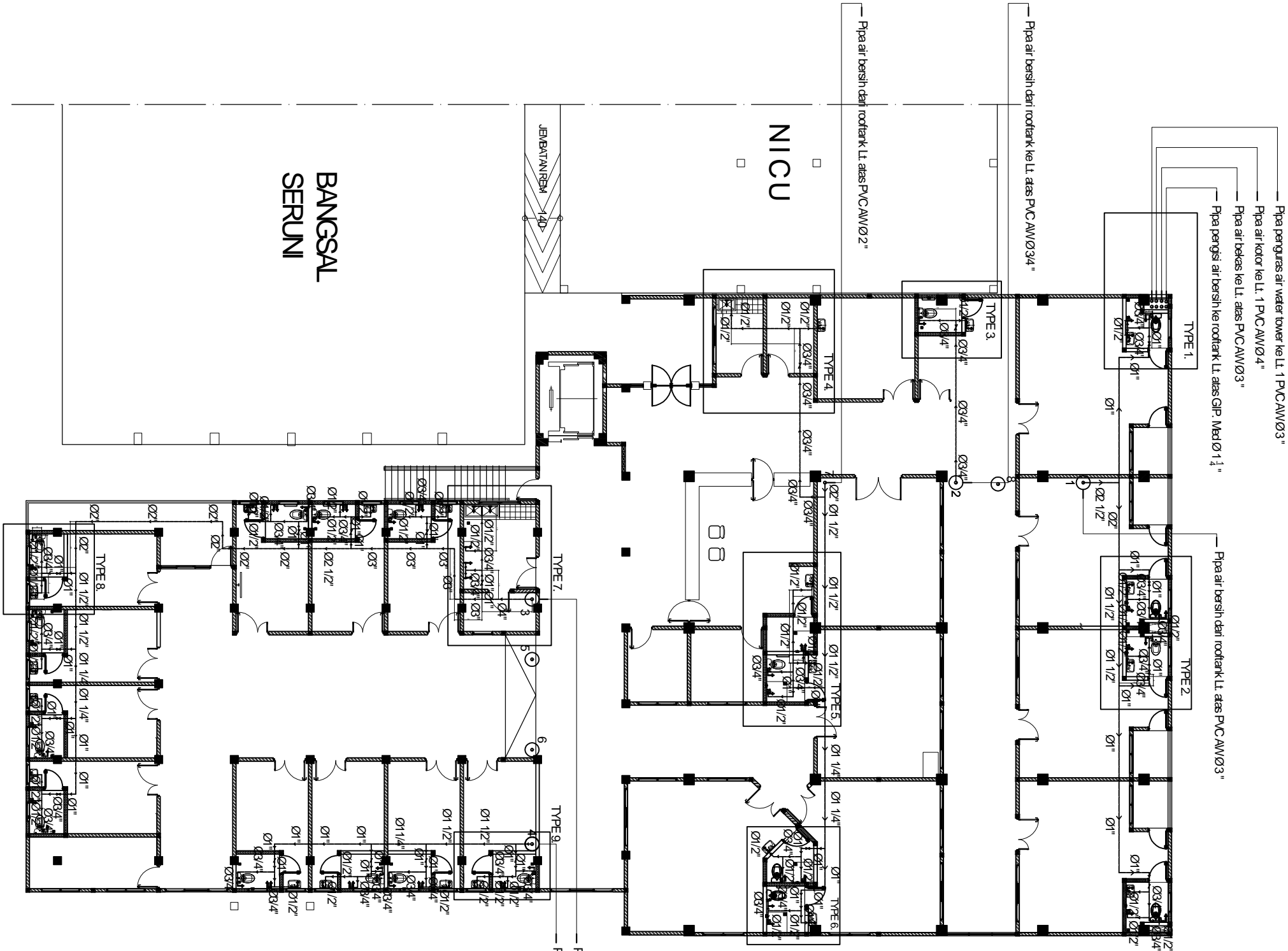
DETAIL INSTALATION FA DIDINDING



SMOKE DETECTOR

RATE OF RISE
DETECTOR

DETAIL PEMASANGAN FIXTURE FIRE ALARM

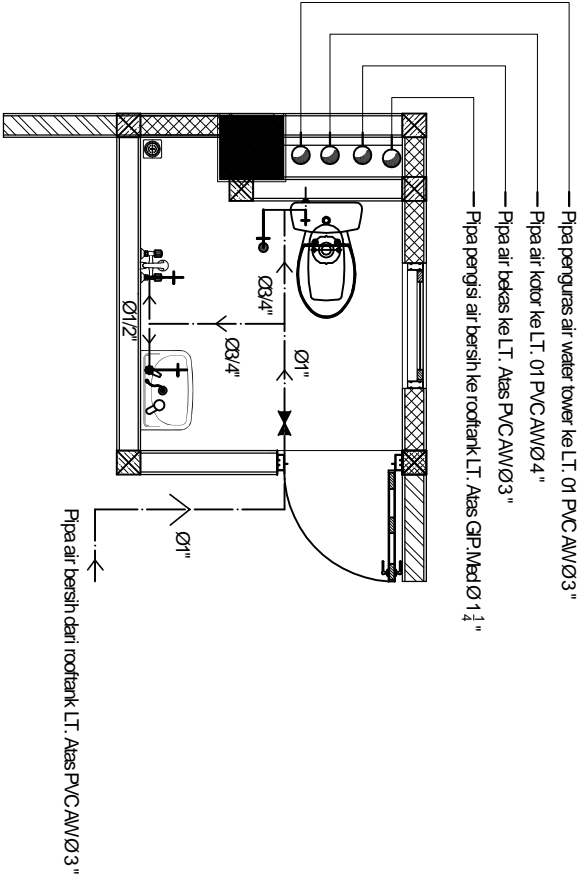


CODE	KETERANGAN
WS	Wastafel
CO	Clean Out
WC	Water Closet
FD	Floor Drain
UR	Urinoir
GV	Gate Valve
ST	Strainer
FJ	Flexible Joint
CV	Check Valve

CODE	KETERANGAN
PD	Pompa Pemancing Air Bersih Daya Hisap : 9 Meter Power : 125 W Voltage : 220 V.AC. 50 Hz. 1 Ø
BV	Ball tap
FV	Foot valve
JS	Jet shower
PJ	Pompa Jockey / Pompa tekan otomatis Total Head : 15 Meter Debit : 80 liter / menit Power : 500 W Voltage : 220 V.AC. 50 Hz. 1 Ø
WH	Pemeras air / Water Filter Kapasitas : 15 liter Power : 500 W Voltage : 220 V.AC. 50 Hz. 1 Ø

CODE	KETERANGAN
PD	Pompa Delivery Air Bersih Total Head : 20 Meter Debit : 20 liter / menit Speed : 1500 rpm Power : 22 kW Voltage : 380 V.AC. 50 Hz 3 Ø
—	Instalasi pipa air bersih P.V.C. AW
—	Kran air
—	Instalasi pipa air bekas P.V.C. AW
—	Instalasi pipa air kotor P.V.C. AW
—	Instalasi pipa udara / vent P.V.C. AW
—	Instalasi pipa air bersih P.V.C. AW

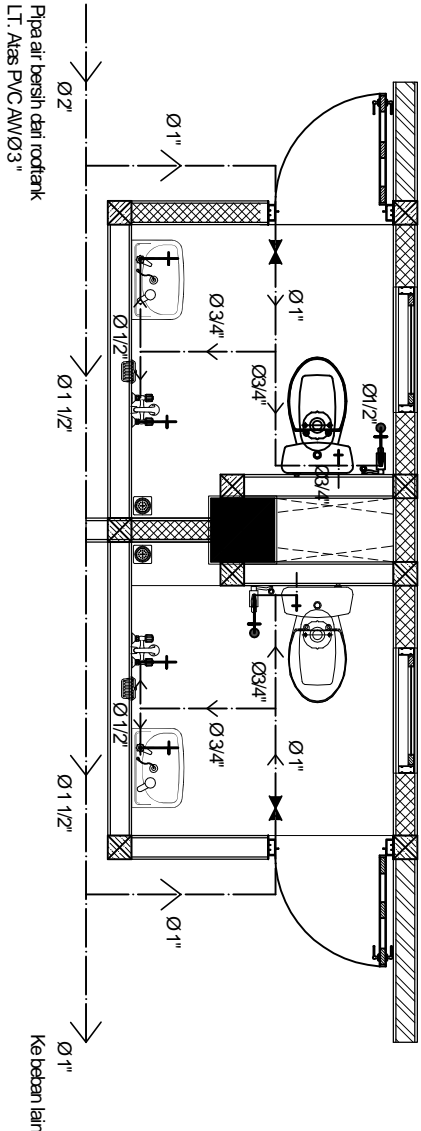
DENAH INSTALASI PIPA AIR BERSIH
GEDUNG PERAWATAN LANTAI - 2



DENAH INSTALASI PIPA AIR BERSIH
LAVATORY R. Rawat Inap VIP. TYPE 1

BARU

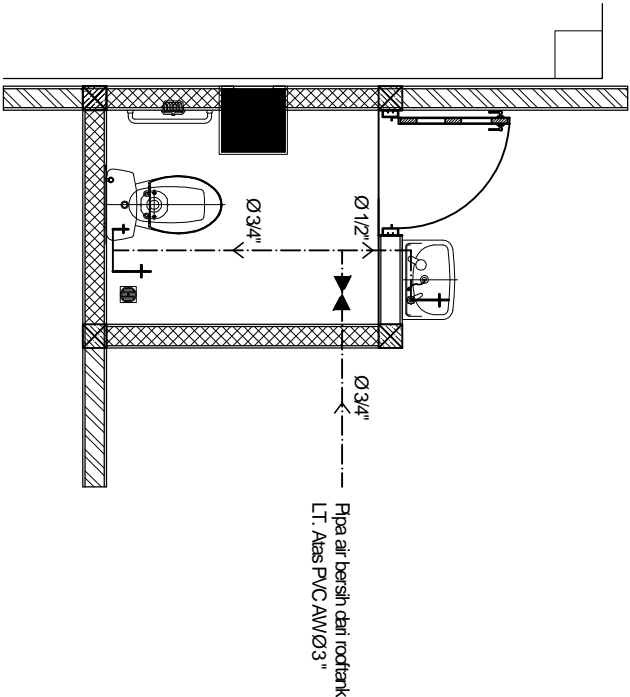
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
LAVATORY R. Rawat Inap VIP. TYPE 2

BARU

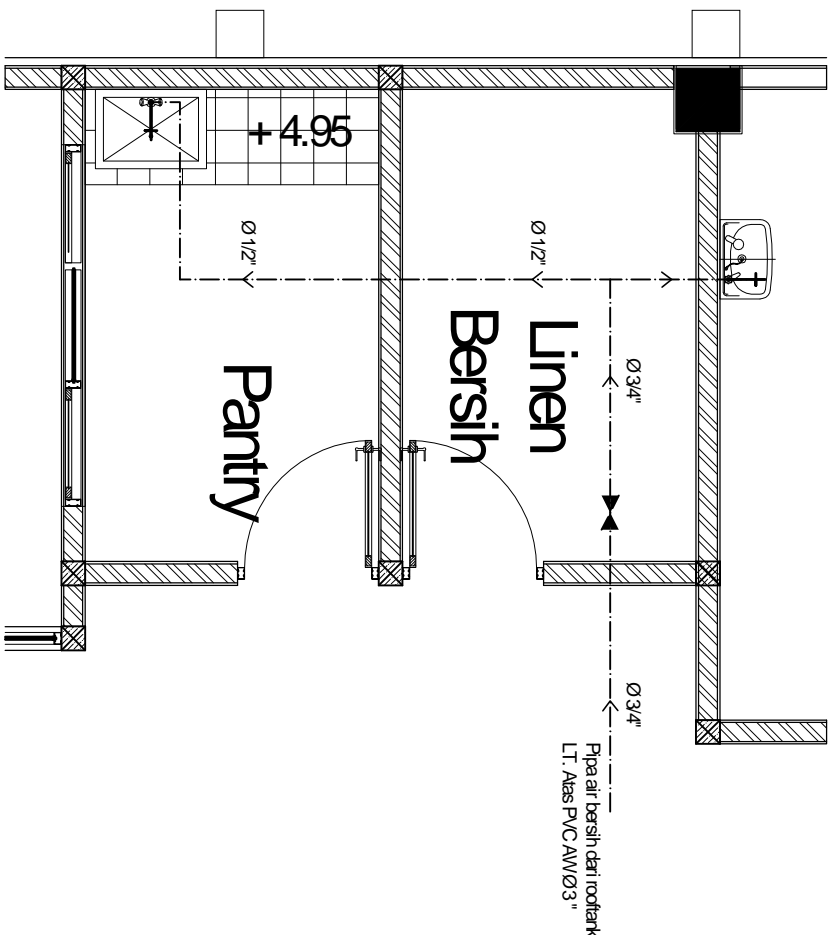
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
LAVATORY R. Dokter TYPE 3

BARU

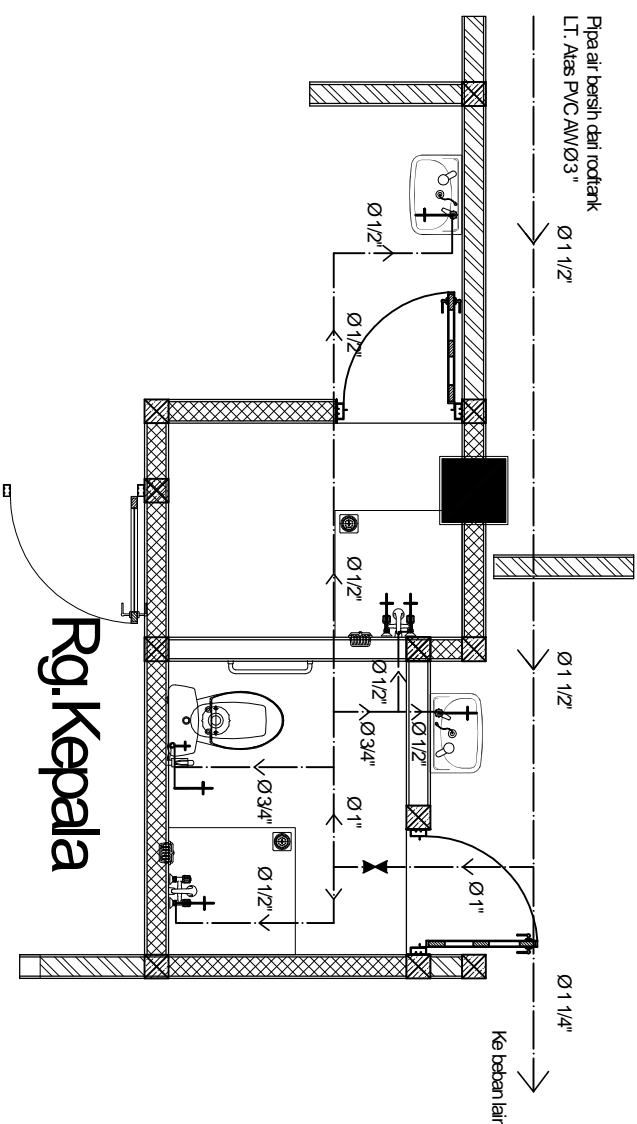
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
PANTRY DAN LINEN BERSIH TYPE 4

BARU

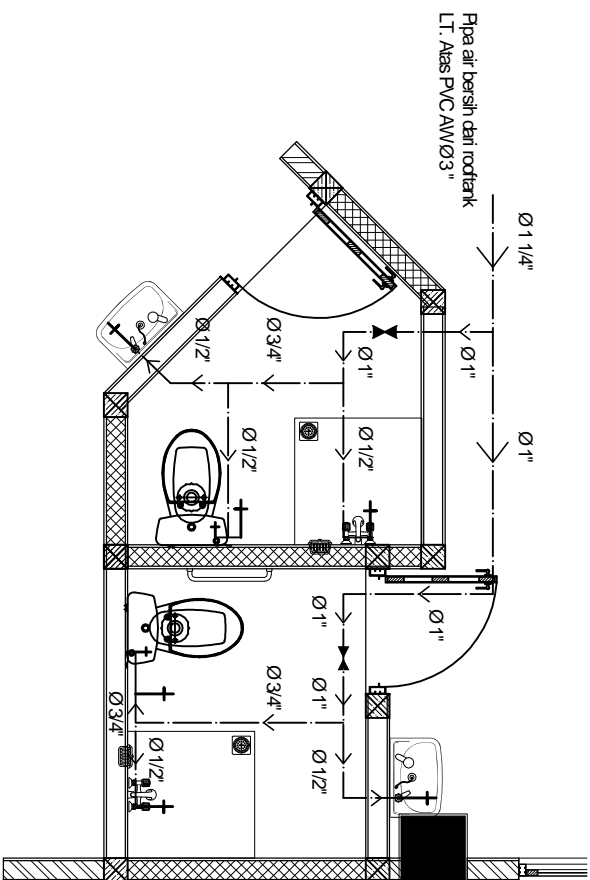
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
RUANG. KEPALA TYPE 5

BARU

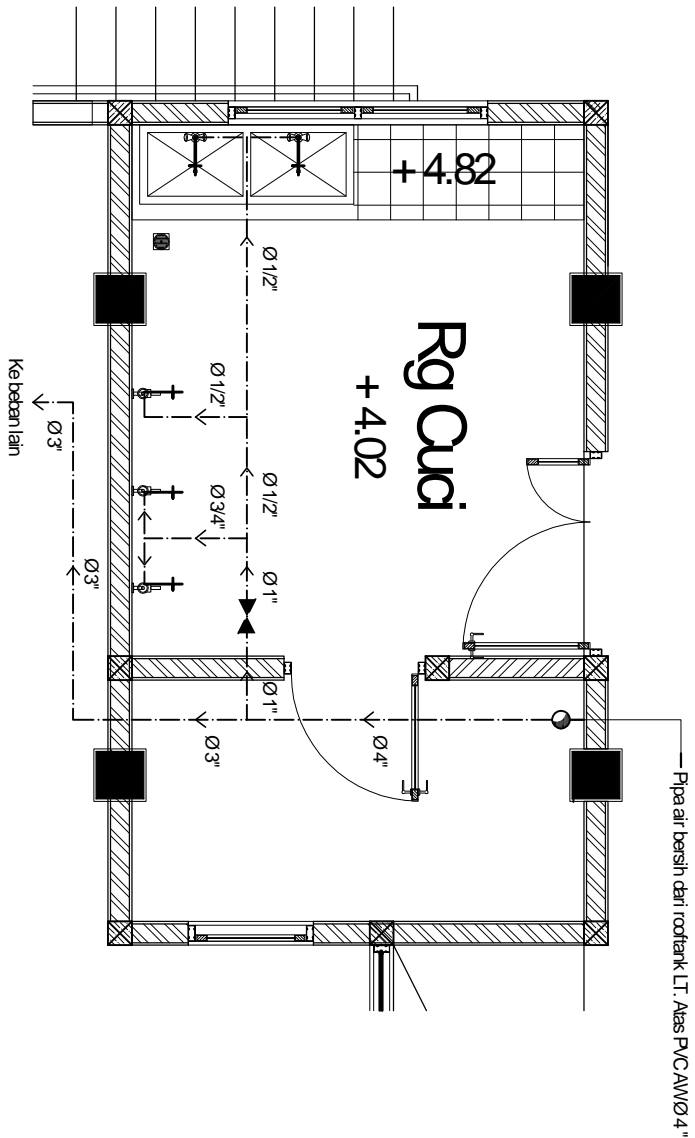
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH R.
INAP KELAS 2. TYPE 6

BARU

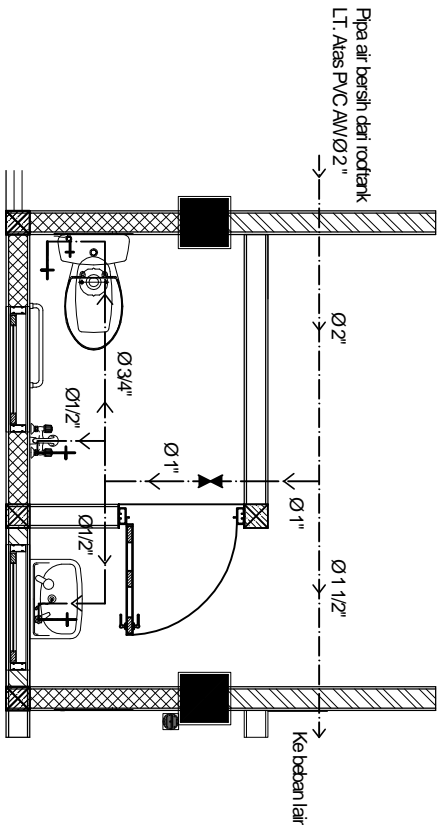
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
RUANG. CUCI TYPE 7

BARU

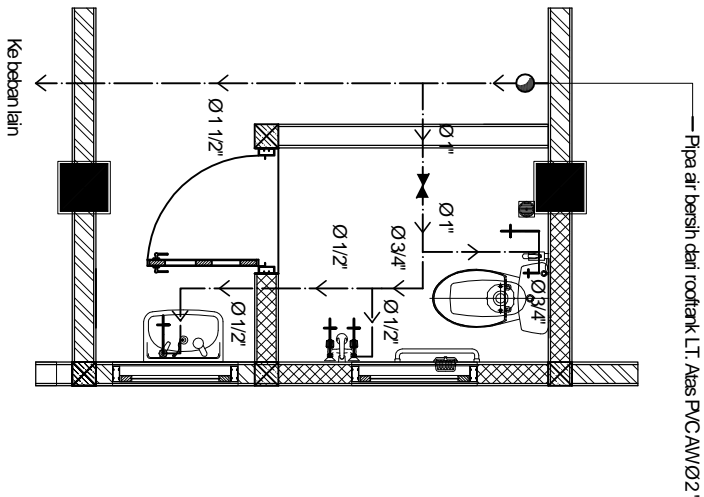
SKALA 1 : 50



DENAH INSTALASI PIPA AIR BERSIH
RUANG. INAP KELAS 1. TYPE 8

BARU

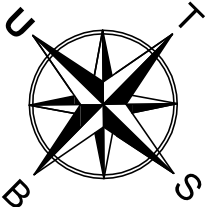
SKALA 1 : 50



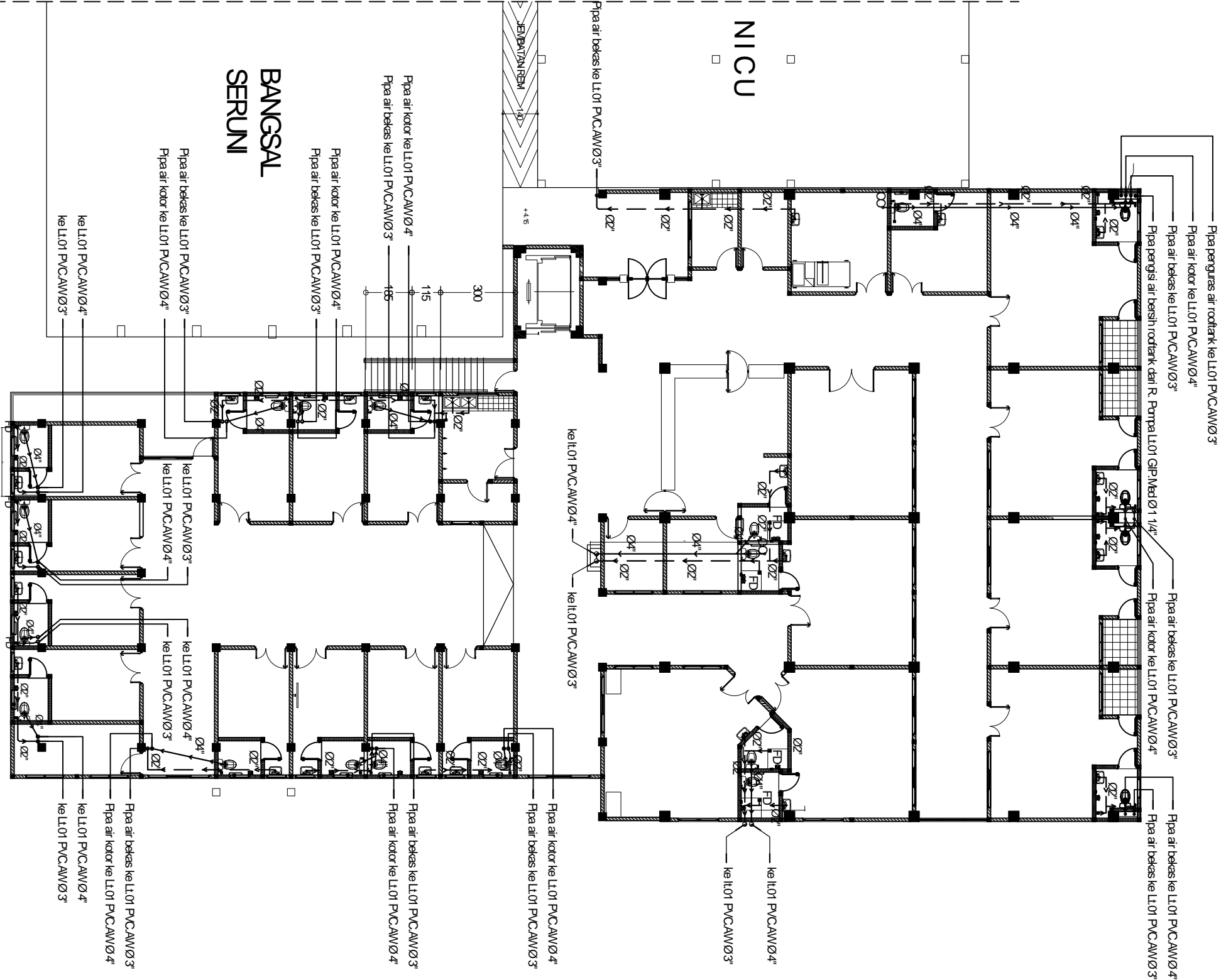
DENAH INSTALASI PIPA AIR BERSIH R. INAP
KELAS 1. TYPE 9

BARU

SKALA 1 : 20



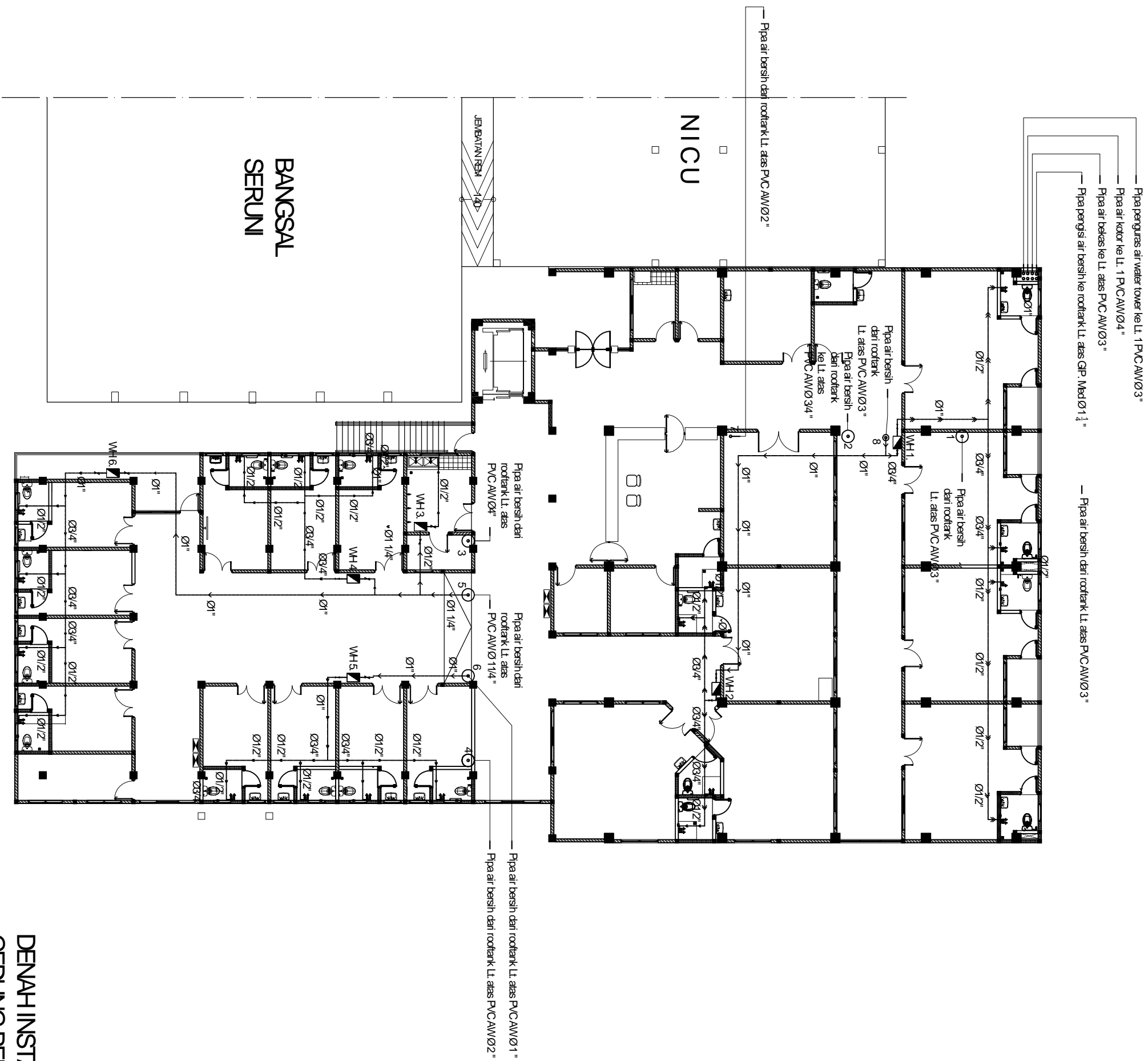
CODE	KETERANGAN	CODE	KETERANGAN
WS	Wastafel	PD	Pompa Pemangang Air Bersih Daya H-asp : 9 Meter Power : 125 W Voltage : 220 V.AC. 50 Hz. 1 Ø
CO	Clean Out	LFV	Foot valve
WC	Water Closet	+	Lat shower
FD	Floor Drain	RJ	Pompa jocky / Pompa tekan otomatis Total Head : 15 Meter Debit : 16080 liter / menit Power : 500 W Voltage : 220 V.AC. 50 Hz. 1 Ø
UR	Urinoir	WH	Perantas air / Water Hiter Kapasitas : 15 liter Power : 500 W Voltage : 220 V.AC. 50 Hz. 1 Ø
GV	Gate Valve		
ST	Strainer		
FL	Flexible Joint		
CV	Check Valve		
CODE	KETERANGAN		
PD	Pompa Delivery Air Bersih Total Head : 20 Meter Debit : 20 liter / menit Speed : 1500 rpm Power : 22 KW Voltage : 380 V.AC. 50 Hz. 3 Ø		
+	Kran air		
+	Instalasi pipa air bersih PVC. AW		
+	Instalasi pipa air bekas PVC. AW		
+	Instalasi pipa air kotor PVC. AW		
+	Instalasi pipa udara / vent PVC. AW		
+	Instalasi pipa air Panas bersih PP-R PN16		



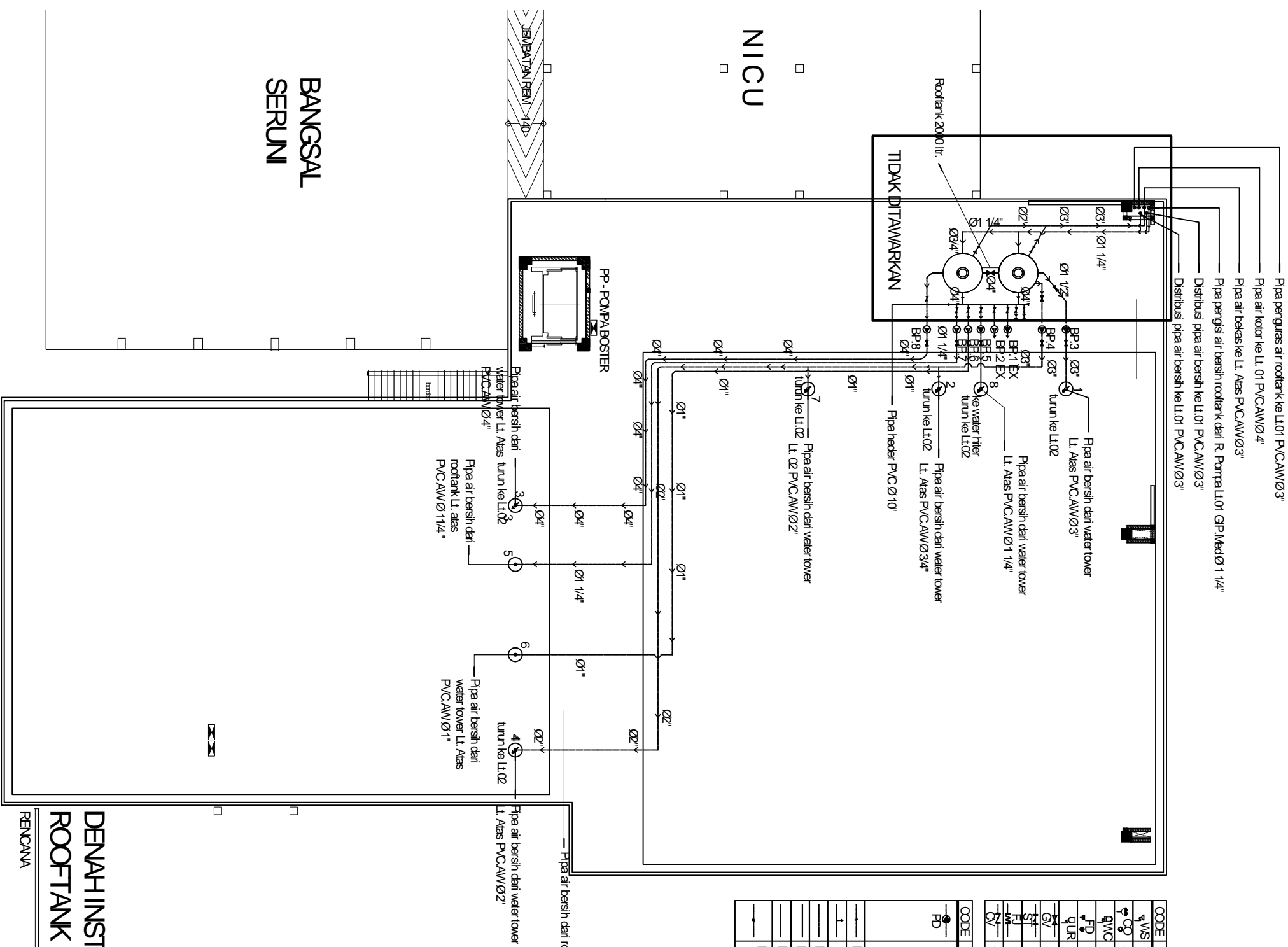
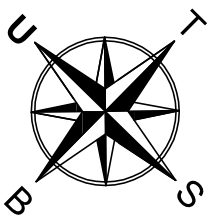
DENAH INSTALASI PIPA AIR KOTOR DAN
AIR BEKAS GEDUNG PERAWATAN LANTAI - 2

BARU

SKALA 1 : 200



DENAH INSTALASI PIPA AIR BERSIH PANAS
GEDUNG PERAWATAN LANTAI - 2

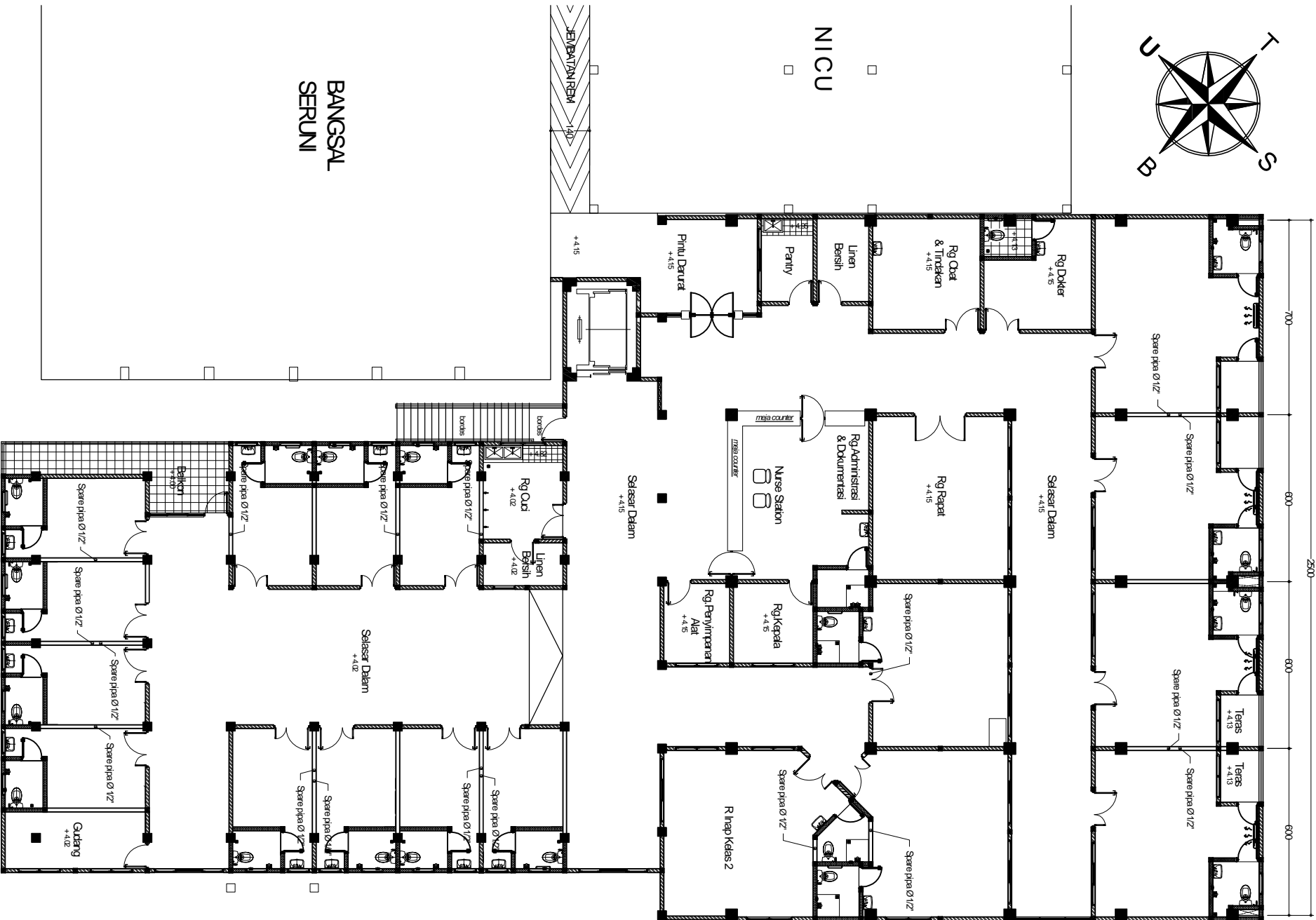
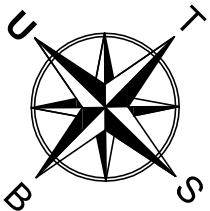


CODE	KETERANGAN
1 WS	Wastafel
2 90	Clean Out
3 WC	Water Closet
4 FD	Floor Drain
5 UR	Urinoir
6 V	Gate Valve
7 S	Strainer
8 FJ	Flexible Joint
9 W	
10 V	Check Valve

CODE	KETERANGAN
PD	Pompa Pemangsat Air Basah Daya/Heap : 9 Meter Power : 125 W Voltage : 220 V.A.C. 50 Hz. 1 Ø
Bj	Ball tap
FV	Foot valve
↓	Jet shower
PJ	Pompa, body / Pompa tekan otomatis Total Head : 15 Meter Debit : 60 liter / menit Power : 500 W Voltage : 220 V.A.C. 50 Hz. 1 Ø
WH	Pernapasan air / Water Filter Kapasitas : 15 liter Power : 500 W Voltage : 220 V.A.C. 50 Hz. 1 Ø

CODE	KETERANGAN
FD	Pompa Delivery Air Bersih
—●—	Total Head : 20 Meter
—	Debit : 20 liter / menit
—	Speed : 1500 rpm
—	Power : 2,2 KW
—	Voltage : 380 V AC, 50 Hz 3 Ø
—	Instalasi pipa air bersih P.V.C, AMV
—┐	Kran air
—	Instalasi pipa air bekas P.V.C, AMV
—	Instalasi pipa air kotor P.V.C, AMV
—	Instalasi pipa udara / vent P.V.C, AMV
—┐	Instalasi pipa air Panas bersih
—	PPR, PM16

DENAH INSTALASI PIPA AIR BERSIH, PENEMPATAN ROOFTANK PLAT ATAP BARU DAN LAMA



NICU

BANGSAL
SERUNI

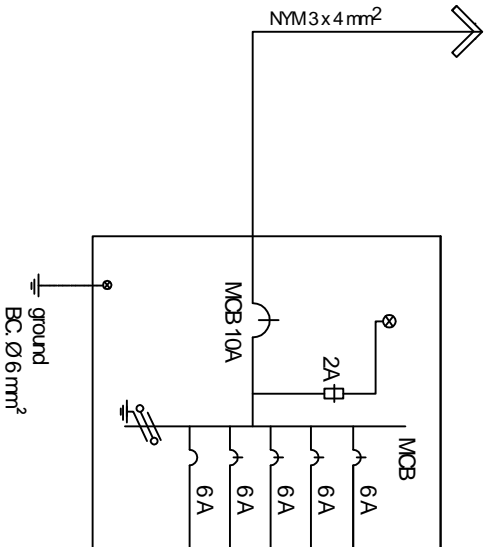
DENAH PENEMPATAN TITIK SPARING PIPA KABEL TV
GEDUNG RERAWATAN LANTAI - 2




BPR

SKALA 1 : 100

CODE	KETERANGAN
●	Sparing pipa P.V.C. Ø 5/8" tinggi dari lt. 40cm

Ke PP - B



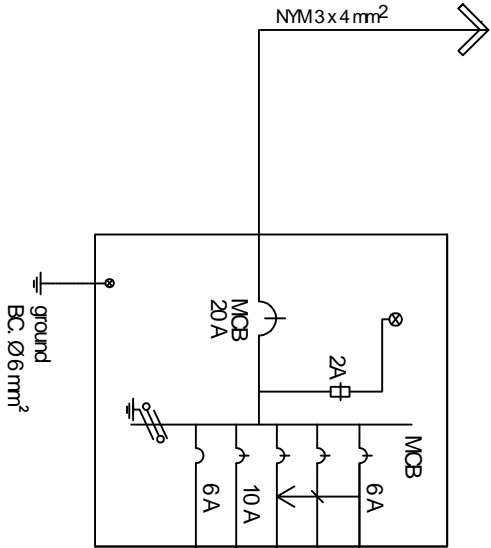
TERMINAL BOK 18F 220 V. AC 50 Hz, 1 phase, 3 Wire Main MCB							BEBAN FASA (W)
g r o u p	FUNCTION	circuit break					R
		poles NO.	trip Amp.	TL 2 x 18 W	STK 200 W	AC 5000 Btu/h	
1	PENERANGAN	1	6	2			90
2	POWER		6		3		600
3	SPARE	↘	6		2		400
4	SPARE	1	6			1	345
4	SPARE	1	6				
Total Fixtures				2	5	1	1435
Demands (W)							1435









REKAPITULASI BEBAN TERMINAL BOK 18F
(1 Unit) Ruang Tindakan Gedung ICU BARU LT.02

BARU

NTS

Ke PP - E



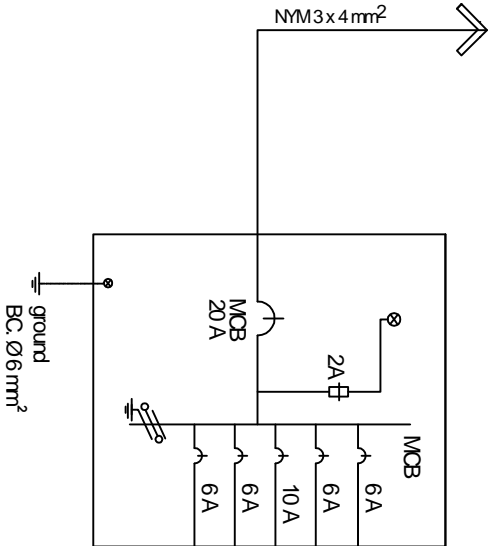
TERMINAL BOK 11F,16F DAN 17F 220 V/AC.50 Hz, 1 phase, 3 Wire Main MCB										BEBAN/FASA (W)	
g r o u p	FUNCTION	circuit break		 ESSENTIAL 18 W	 ESSENTIAL 18 W	 TL 2 X 18 W	 STK 200 W	 AC 1200 Btu/h	 EF 39 W	R	
		poles NO.	trip Amps.								
1	PENERANGAN	1	6	2	2	2				180	
2	POWER						3			600	
3	POWER						3			600	
4	POWER	1	10					1		1150	
5	SPARE	1	6								
Total Fixtures				2	2	5	1			2530	
Demands (W)										2530	






REKAPITULASI BEBAN TERMINAL BOK 11F.16F DAN 17F
(Typical 3 Unit) Ruang Rawat Inap Kelas 2.
BANGSAL SERUNI LANTAI 01

BARU

NTS

Ke PP - B

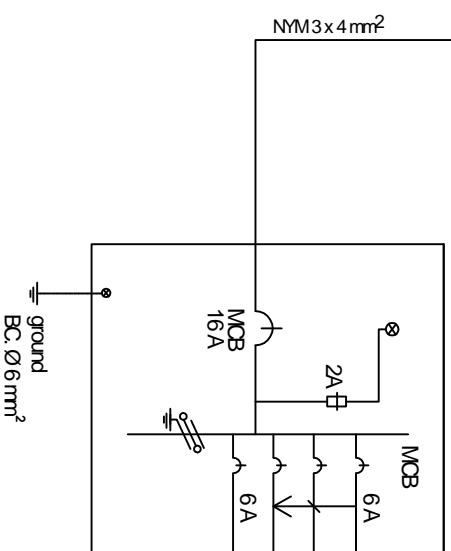







TERMINAL BOK 12F.13F.14F.15. 220 V. AC 50 Hz, 1 phase, 3 Wire Main MCB										BEBAN FASA (W)	
g r o u p	FUNCTION	circuit break		 ESSENTIAL 18 W	 ESSENTIAL 18 W	 STK 200 W	 AC 12000 Bruh	 EF 39 W		R	
		poles NO.	trip Amp.								
1	PENERANGAN	1	6	6	1				1	197	
2	POWER		6			2				400	
3	POWER	↓	10			3				600	
5	POWER	1	6				1			1150	
4	SPARE	1	6								
Total Fixtures				6	1	5	1	1	1	2347	
Demands (W)										2347	

REKAPITULASI BEBAN TERMINAL BOK 12F.13F.14F. DAN 15F
(Typical 4 Unit) Ruang Rawat Inap VIP
GEDUNG ICU BARU LT.02

BARU

NTS

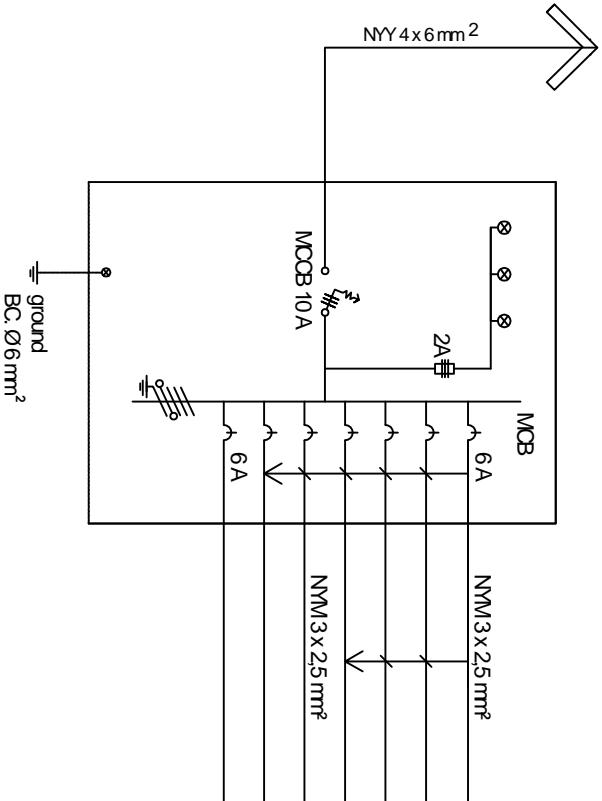






TERMINAL BOX 1F,2F,3F,4F,5F,6F,7F,8F,9F,10F 220 V.AC, 50 Hz, 1 phase, 3 Wire Main MCB								BEBAN FAS (W)	
Ur o p	FUNCTION	circuit break		 ESSENTIAL 18 W	 ESSENTIAL 18 W	 STK 200 W	 AC 7000 Buh	 EF 38 W	R
		poles NO.	trip App.						
1	PENERANGAN	1	6	4	1			1	174
2	POWER					3			600
3	POWER	↓	↓				1		670
4	SPARE	1	6						
Total Fixtures				5	1	3	1	1	
Demands (W)									1444

BARU

NTS

Ke SDP - 2



Lighting Panel (LP - B) 220 / 380 V, AC 50 Hz , 3 phase, 4 Wire Main MCB							BEBAN FASA (W)							
g r o u p	F U N C T I O N	circuit break		 TL 2X 18 W	 TL 4X 18 W	 ESSENTIAL 18 W	 EF 39 W			R	S	T		
		poles NO	trip Amp.											
1	PENERANGAN	1	6	9							405			
2				6		3				338				
3				4		2				225				
4				4		1		1					242	
5	PENERANGAN			6		2		1					354	
6	spare													
7	spare													
Total Fixtures				29		8	2			563	405	596		
											Demands (W)			1564

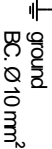
REKAPITULASI BEBAN LIGHTING PANEL - B

GEDUNG ICU BARU LANTAI 02

BARU

NTS

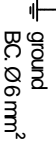
Power Panel (PP - B) 220 / 380 V , AC
50 Hz , 3 phase , 4 Wre Main MCB



Total Fixtures	3	4		1		2	1	1	24
	Demands (W)								

GEDUNG ICU BARU LANTA 02

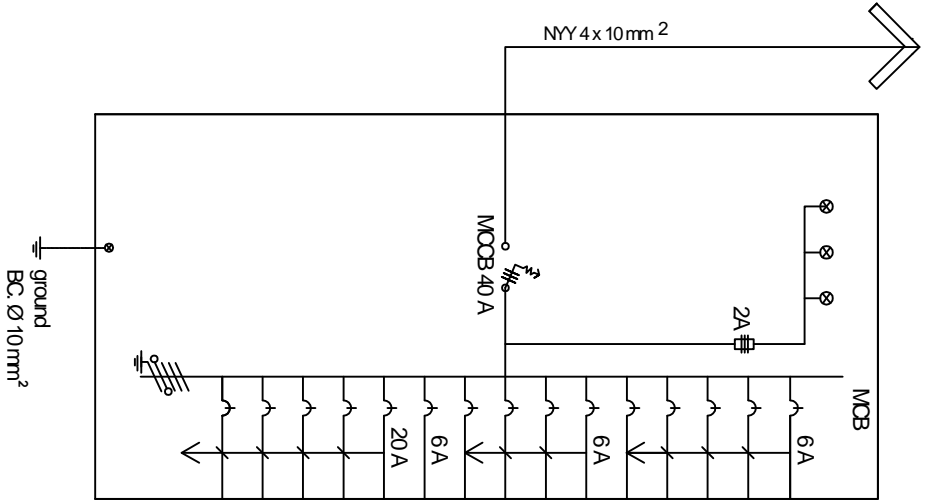
NTS

Total Fixtures

GEDUNG PERAWATAN BARU LANTA 02

NTS

Ke SDP - 2

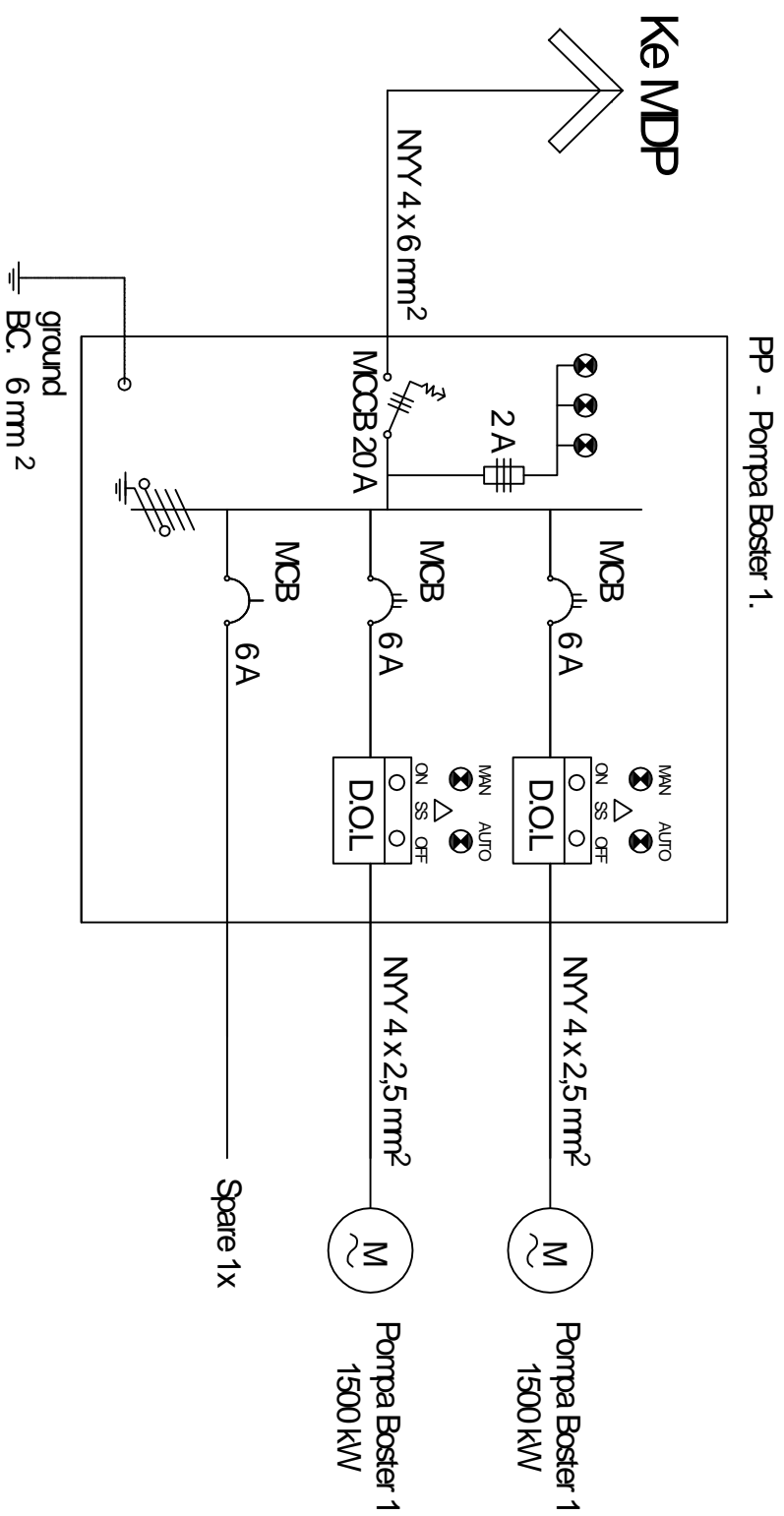


Power Panel (PP - A) 220 / 380 V, AC 50 Hz , 3 phase, 4 Wire Main MOCB							BEBAN FASA (W)		
g r o u p	FUNCTION	circuit break		TB 1444 W	± STR 200 W		R	S	T
		poles NO.	trip Amp.						
1	POWER	1	16	1			1444		
2				1				1444	
3				1					1444
4				1			1444		
5	✓	✓	✓	1				1444	
6	POWER	1	16	1					1444
7				1			1444		
8				1				1444	
9				1					1444
10		✓	16	1			1444		
11		1	6		3			600	
12	✓				2				400
13	POWER				2			400	
14	SPARE	✓	✓						
15	SPARE	1	6						
Total Fixtures				10	7		5776	5332	4732
Demands (W)							15,840		

REKAPITULASI BEBAN POWER PANEL - A
GEDUNG RADIOLOGI BARU LANTAI 02

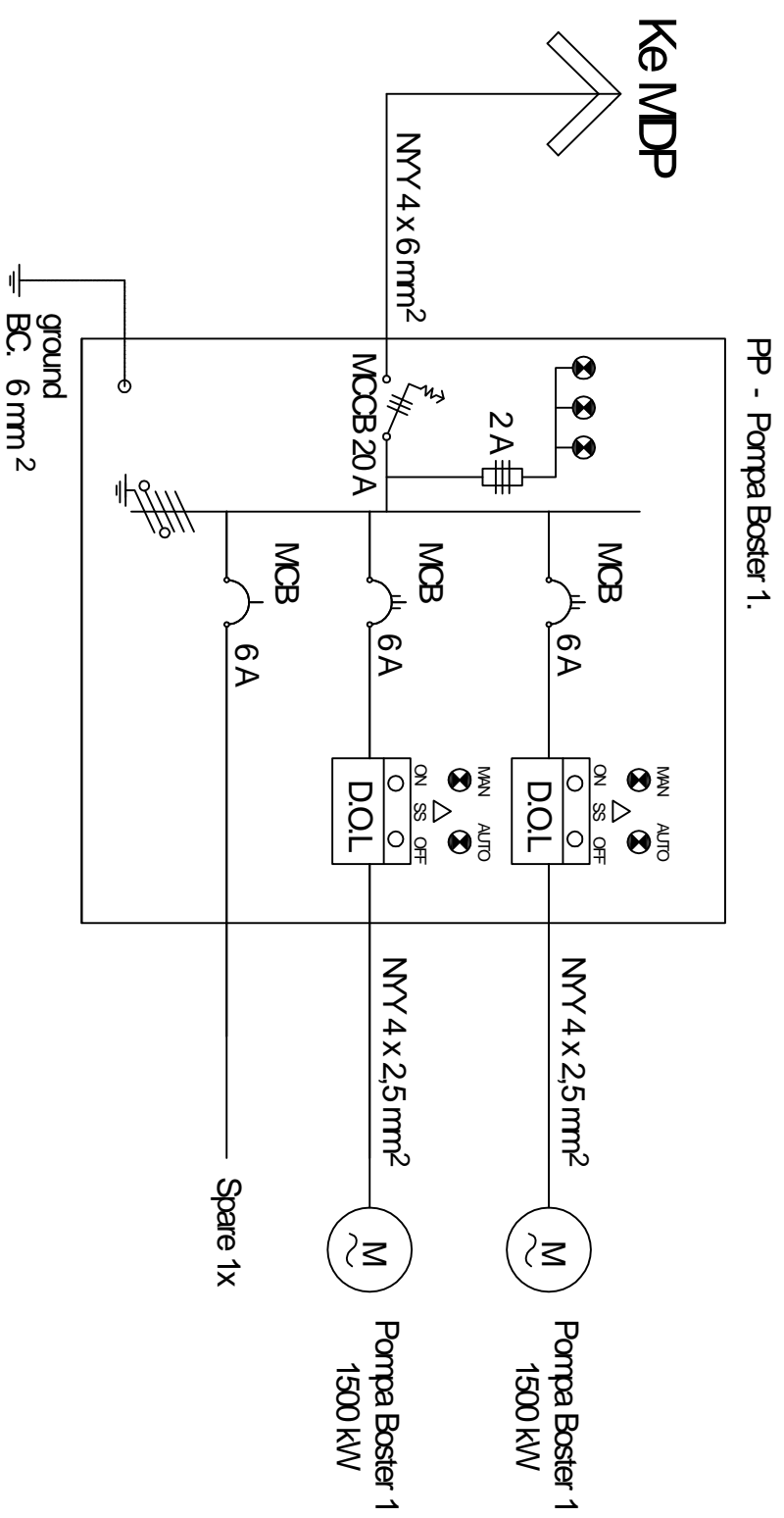
BARU

NTS



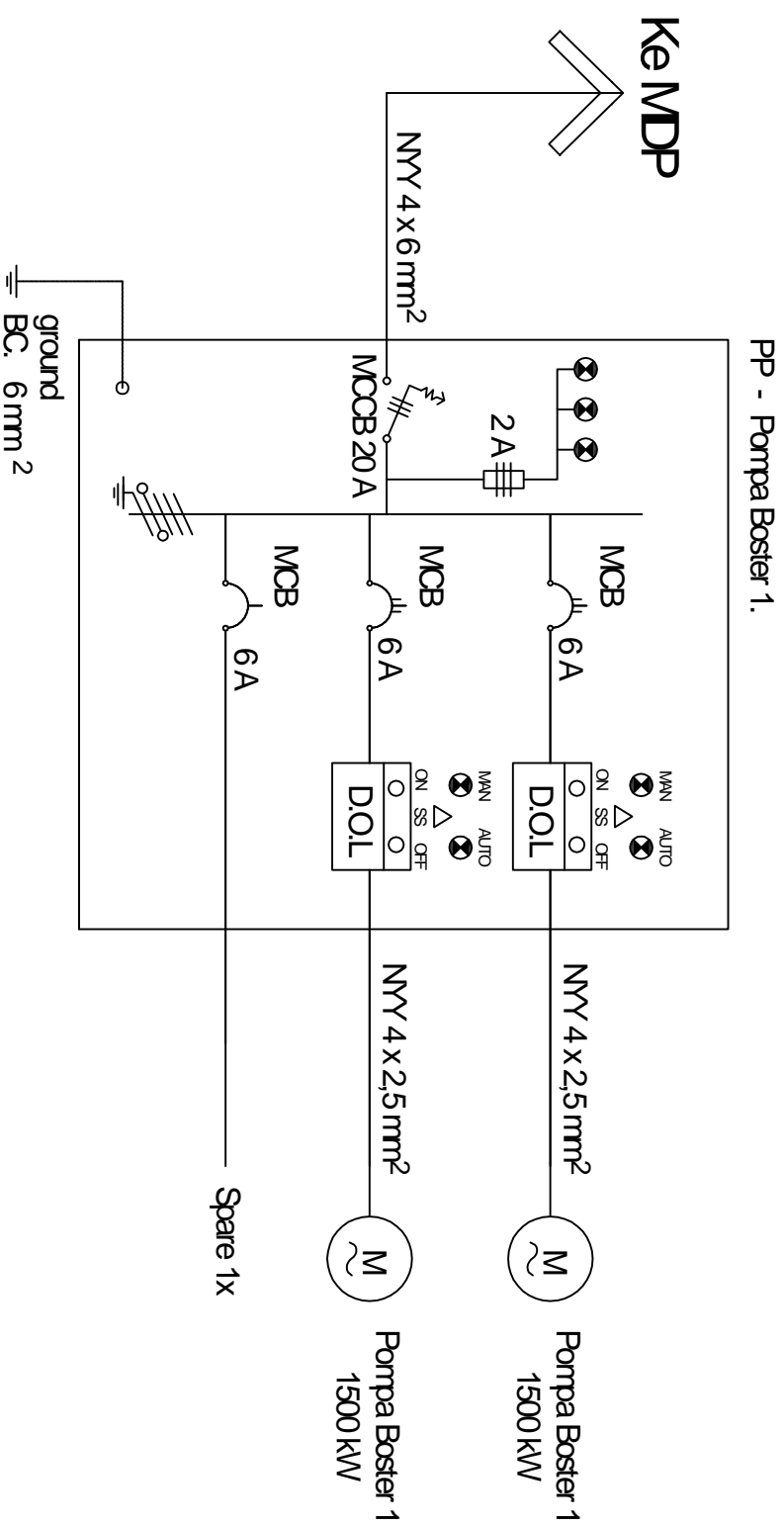
PP - POMPA BOSTER 2.

NTS



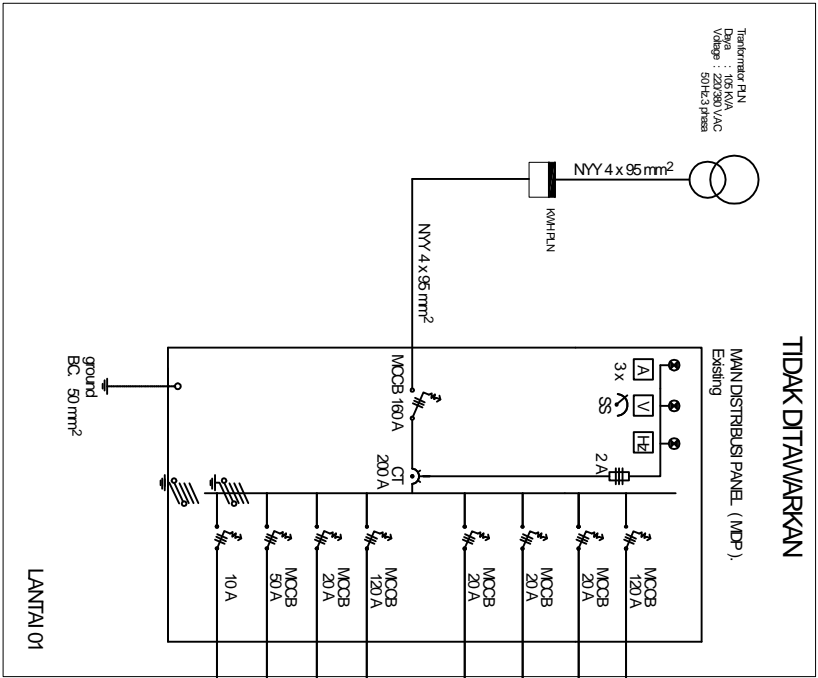
PP - POMPA BOSTER 3.

NTS

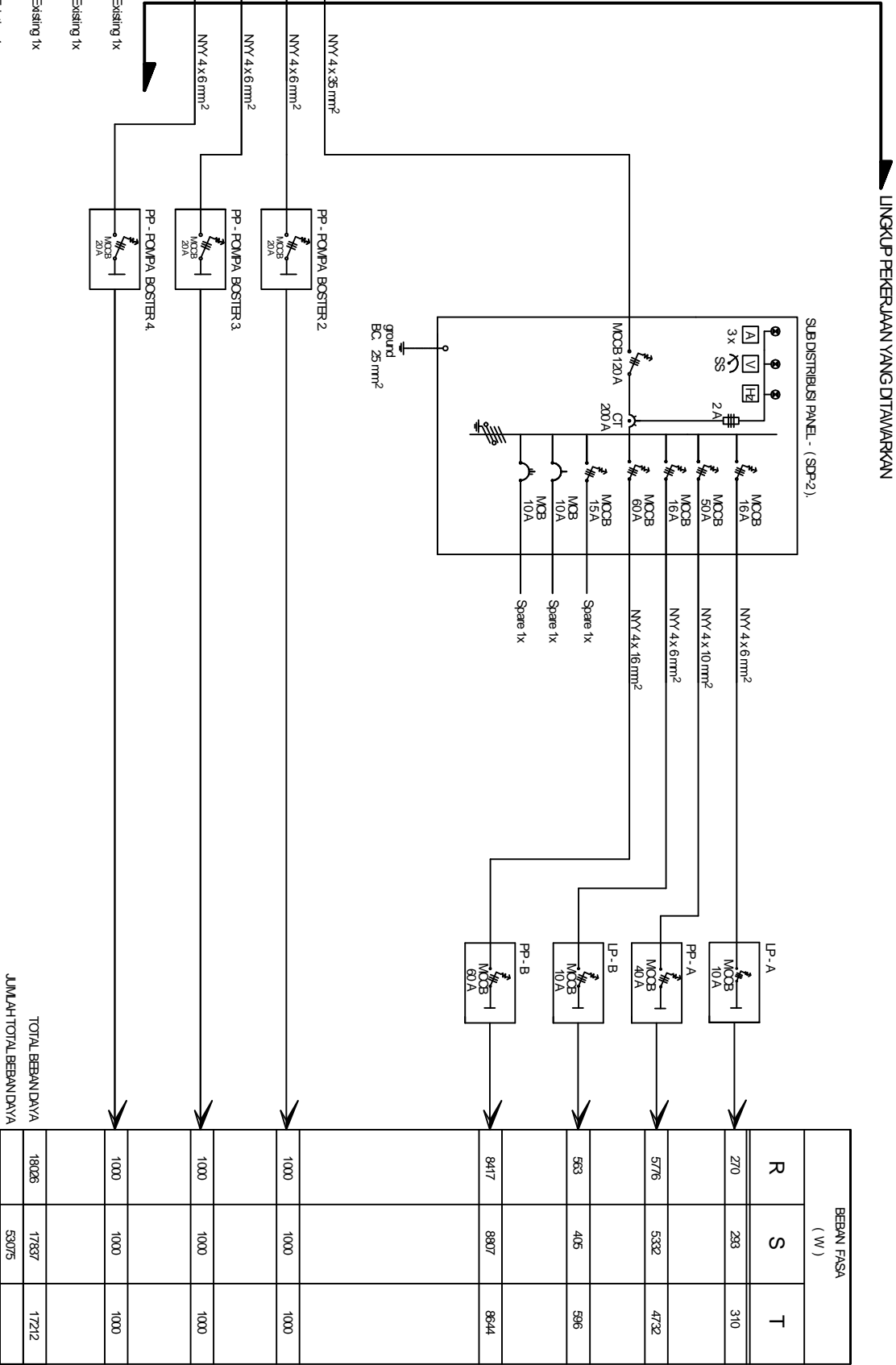


PP - POMPA BOSTER 4.

NTS



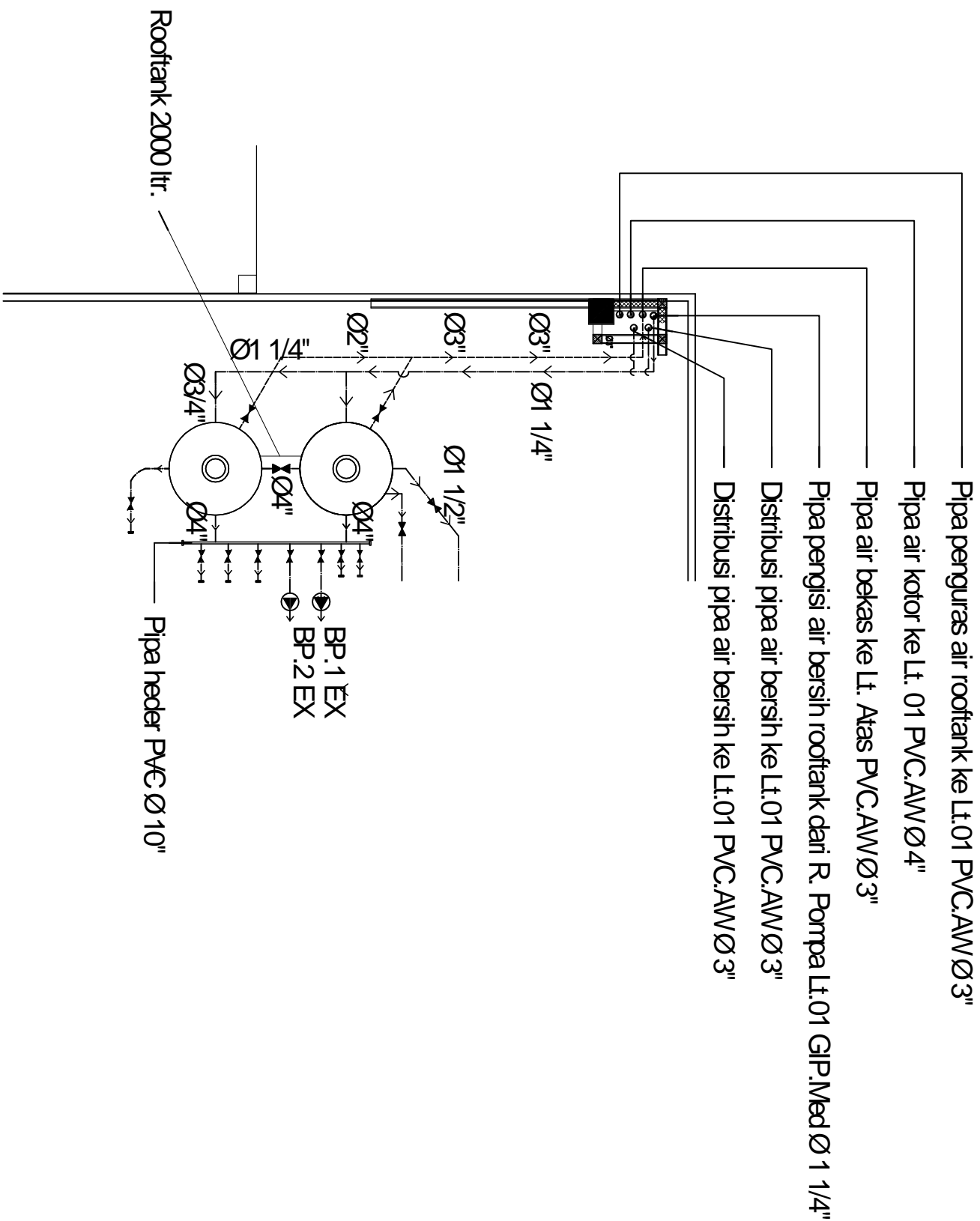
TIDAK DITAWARKAN



SISTIM DISTRIBUSI POWER PANEL LISTRIK
GEDUNG PERAWATAN LT.02

RENCANA

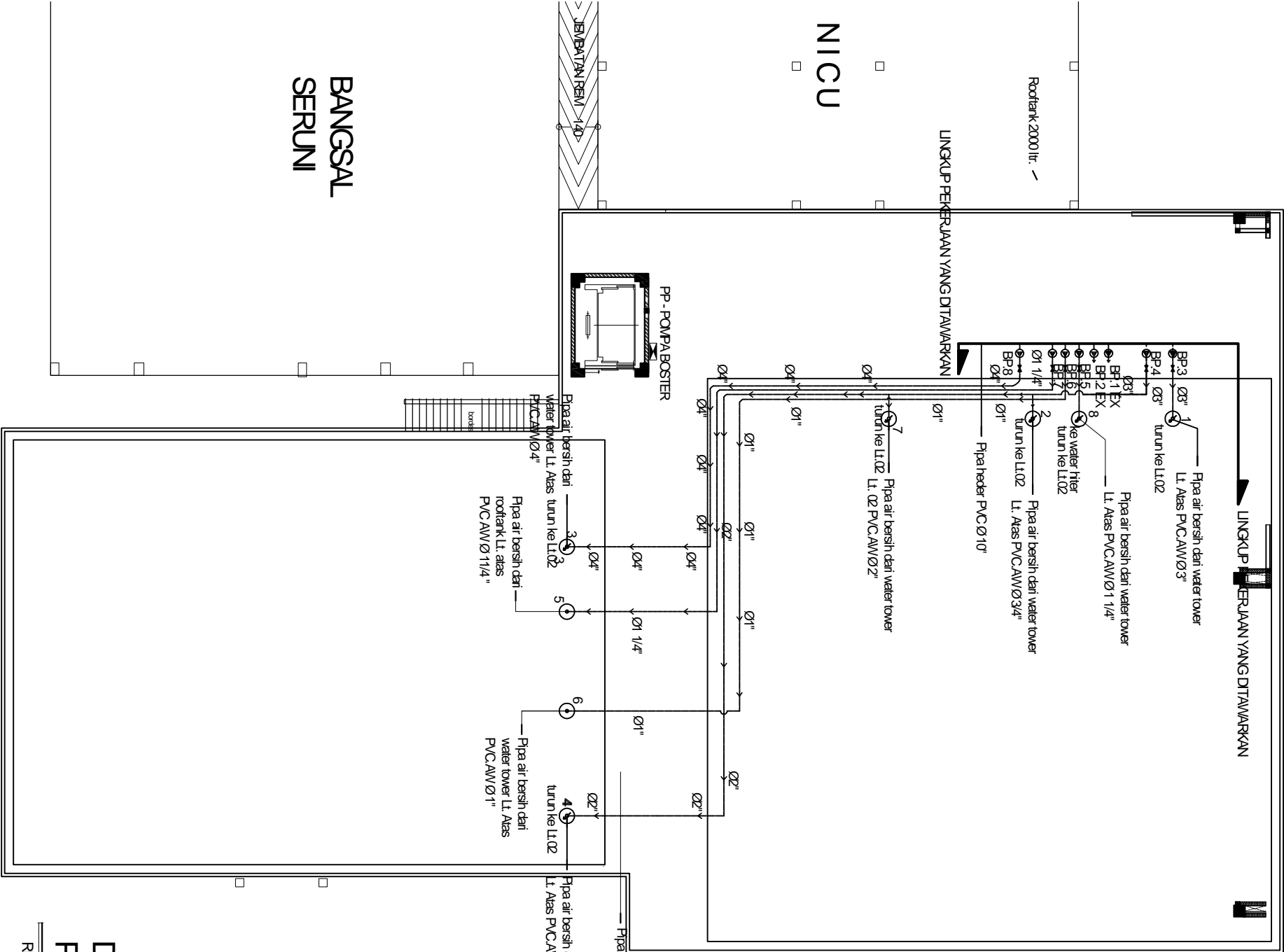
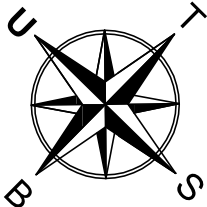
NTS



DENAH INSTALASI PIPA AIR BERSIH DAN
PENEMPATAN ROOFTANK PLAT ATAP EXISTING

ELV. 9.15m

SKALA 1 : 20



CODE	KETERANGAN
WS	Wastafel
CO	Clean Out
QWC	Water Closet
FD	Floor Drain
UN	Unioir
GV	Gate Valve
ST	Strainer
FJ	Flexible Joint
AV	Check Valve

CODE	KETERANGAN
PD	Pompa Pemindah Air Bersih Daya Hesp : 9 Meter Power : 125 W Voltage : 220 V.A.C. 50 Hz. 1 Ø
BJ	Ball tap
FV	Foot valve
JS	Jet shower
PJ	Pompa Jockey / Pompa tekan otomatis Total Head : 15 Meter Debit : 160 liter / menit Power : 500 W Voltage : 220 V.A.C. 50 Hz. 1 Ø
WH	Pemeras air / Water Filter Kapasitas : 15 liter Power : 500 W Voltage : 220 V.A.C. 50 Hz. 1 Ø

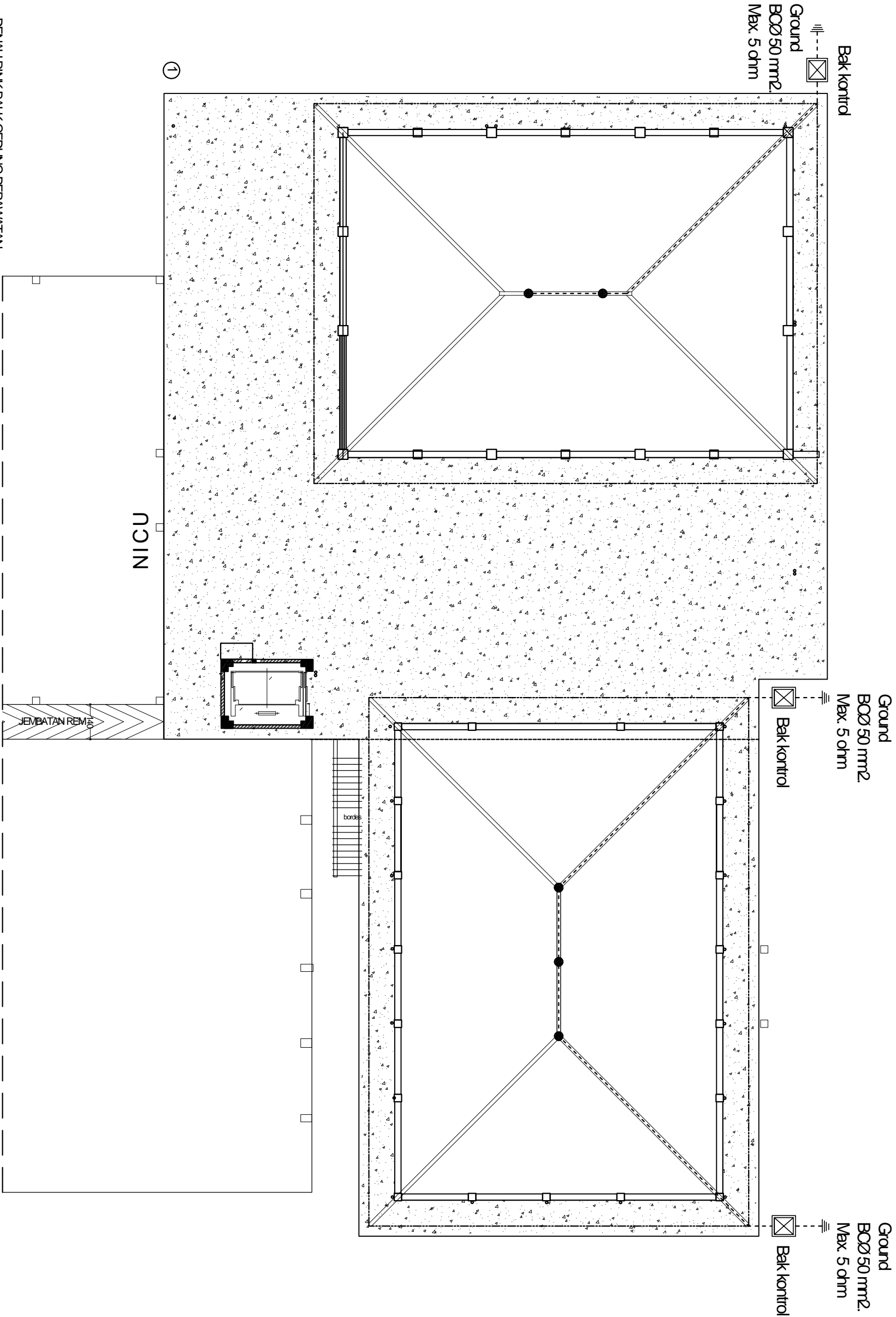
CODE	KETERANGAN
PD	Pompa Delivery Air Bersih Total Head : 20 Meter Debit : 20 liter / menit Speed : 1500 rpm Power : 2.2 KW Voltage : 380 V.A.C. 50 Hz 3 Ø
—	Instalasi pipa air bersih PVC, AV
—	Kran air
—	Instalasi pipa air bekas PVC, AV
—	Instalasi pipa air kotor PVC, AV
—	Instalasi pipa udara / vent PVC, AV
—	Instalasi pipa air Pemas bersih
—	PP-R, PN16

DENAH INSTALASI PIPA AIR BERSIH DAN PENEMPATAN ROOFTANK PLAT ATAP

RENCANA

SKALA 1 : 200

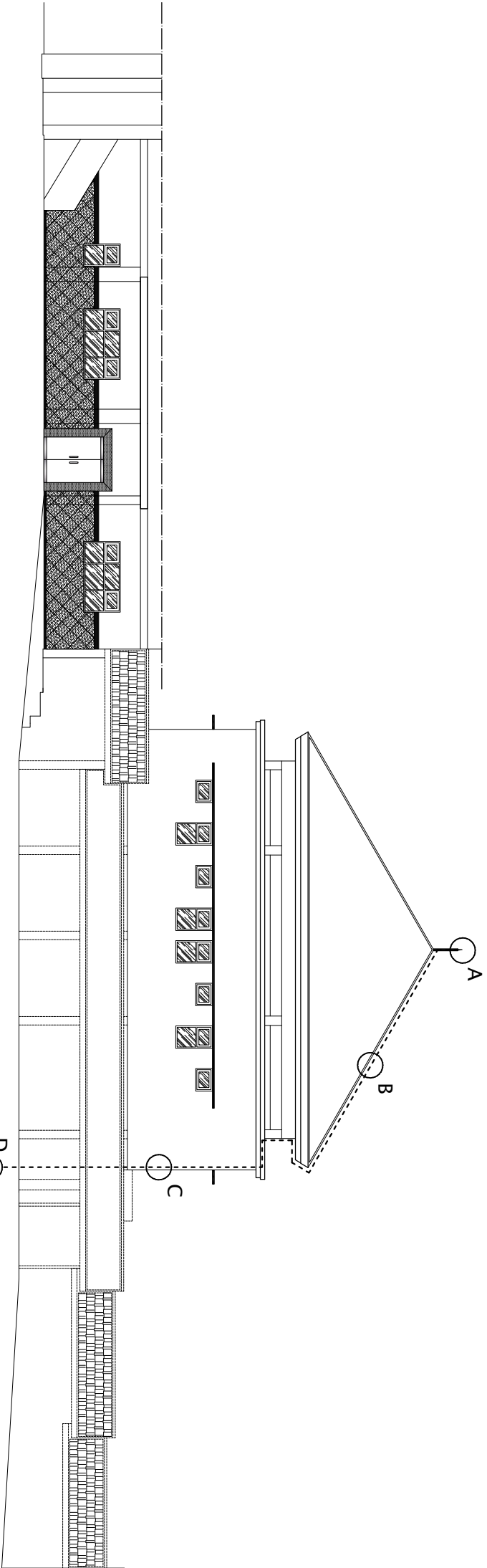
CODE	KETERANGAN
●	Spi tembaga Ø 1"
⚡	Grounding GIP Ø 1" : Max 5 Ohm
----	Kabel pengantar BC. Ø 50mm ²
☒	Bak kontrol pasangan batu bata 30x30x30cm



DENAH RINK BALK GEDUNG PERAWATAN
LANTAI - 2

ELV 3.65m

SKALA 1:175

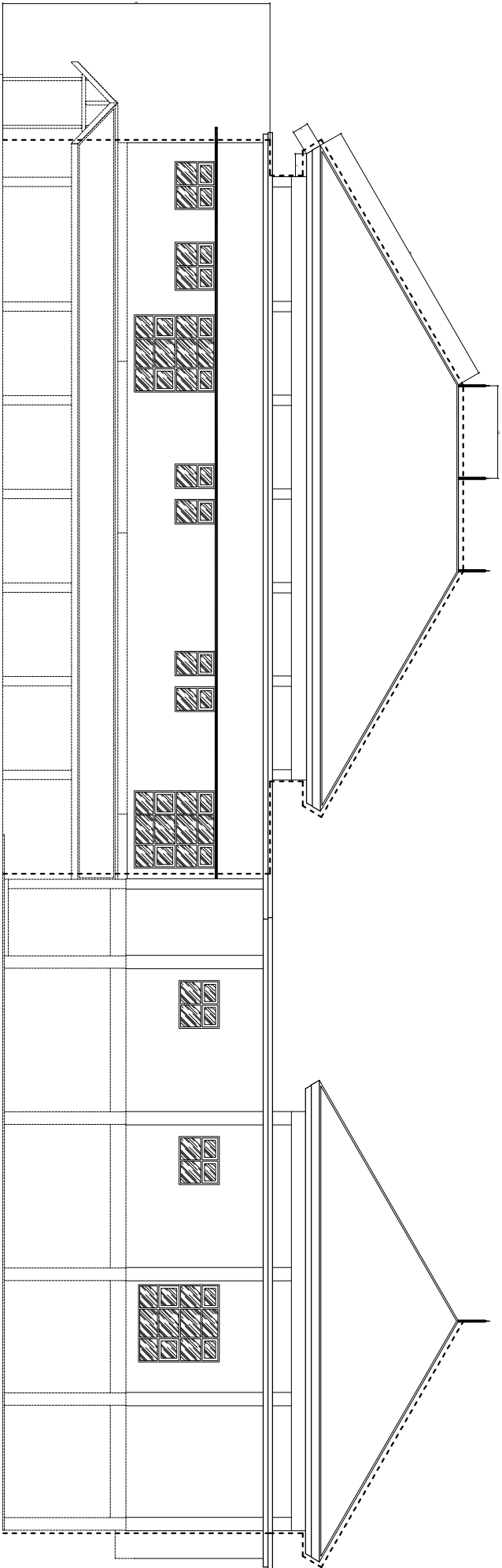


TAMPAK DEPAN PENANGKAL PETIR

BARU

SKALA 1 : 200

D
Bak kontrol
Ground
BCØ 50 mm2.
Max. 5 dmm



Bak kontrol
Ground
BCØ 50 mm2
Max. 5 dmm

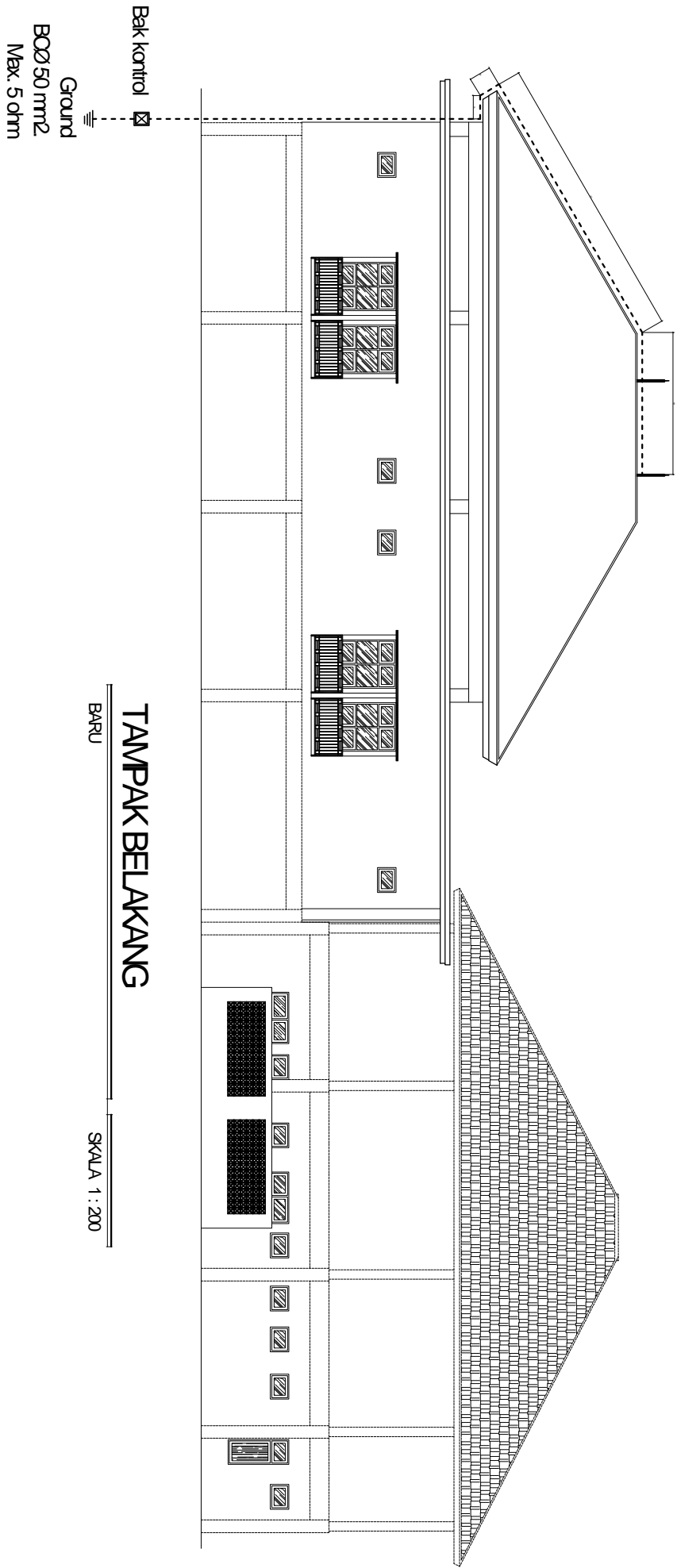
Bak kontrol
Ground
BCØ 50 mm2
Max. 5 dmm

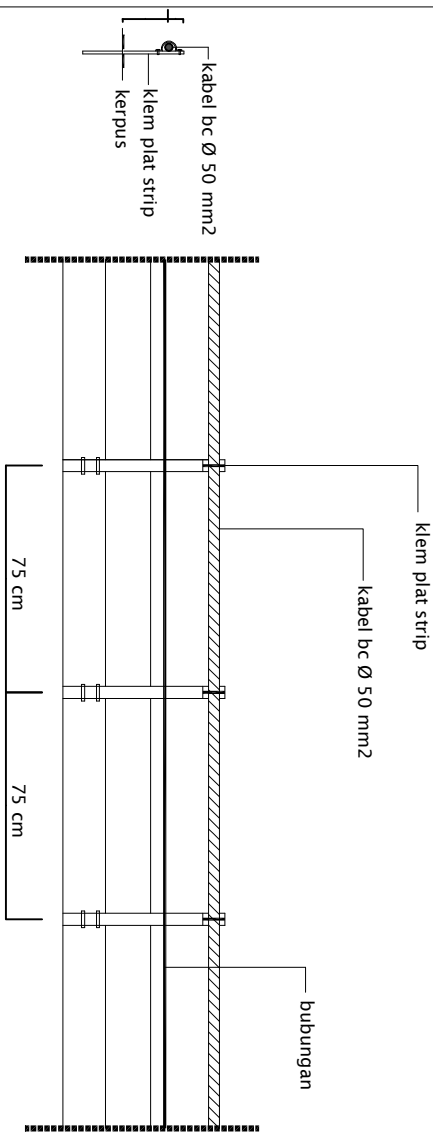
Bak kontrol
Ground
BCØ 50 mm2.
Max. 5 dmm

TAMPAK SAMPIING KANAN
PENANGKAL PETIR

BARU

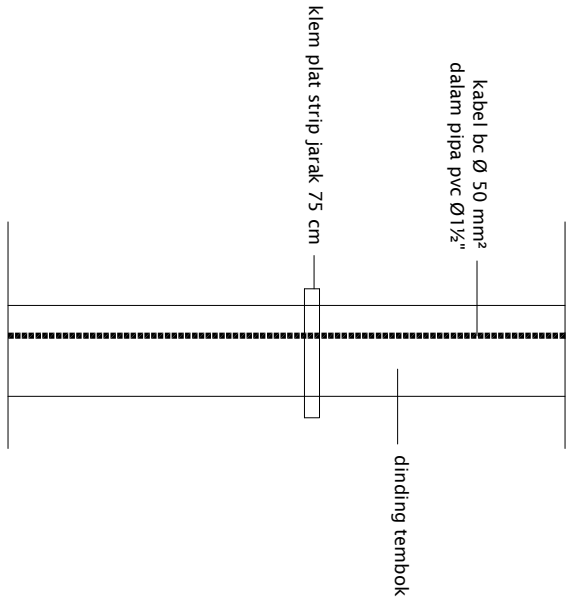
SKALA 1 : 200





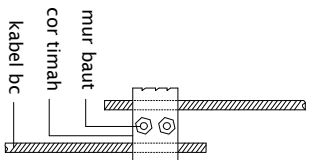
DETAIL - B

SKALA 1 : 25



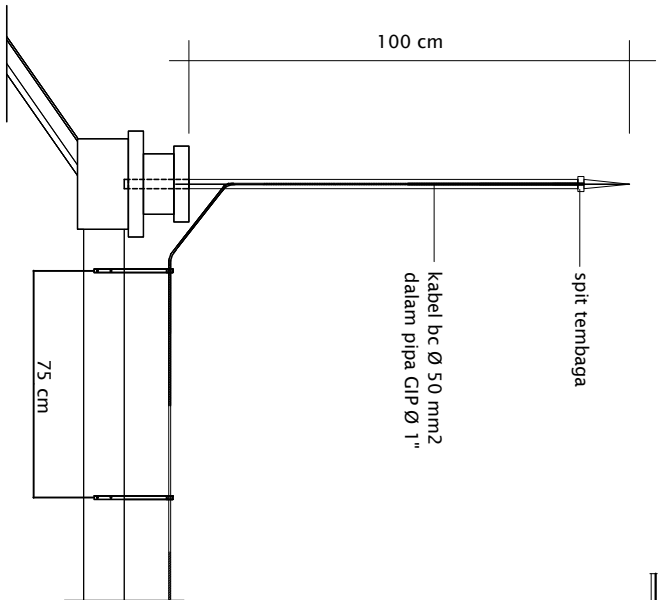
DETAIL - C

SKALA 1 : 25



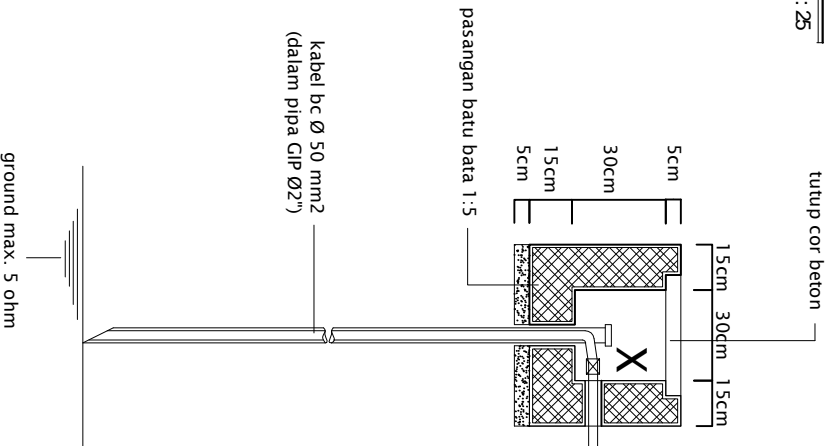
DETAIL SAMBUNGAN KABEL
BC Ø 50 mm²

SKALA 1 : 25



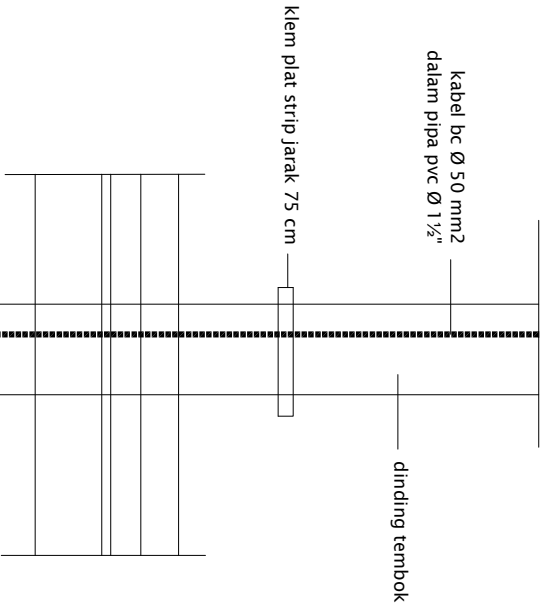
DETAIL - A

SKALA 1 : 25

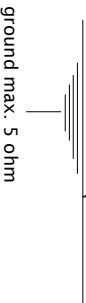


DETAIL - D

SKALA 1 : 25



SKALA 1 : 25



ground max. 5 ohm