



İBE — 11 — 1976

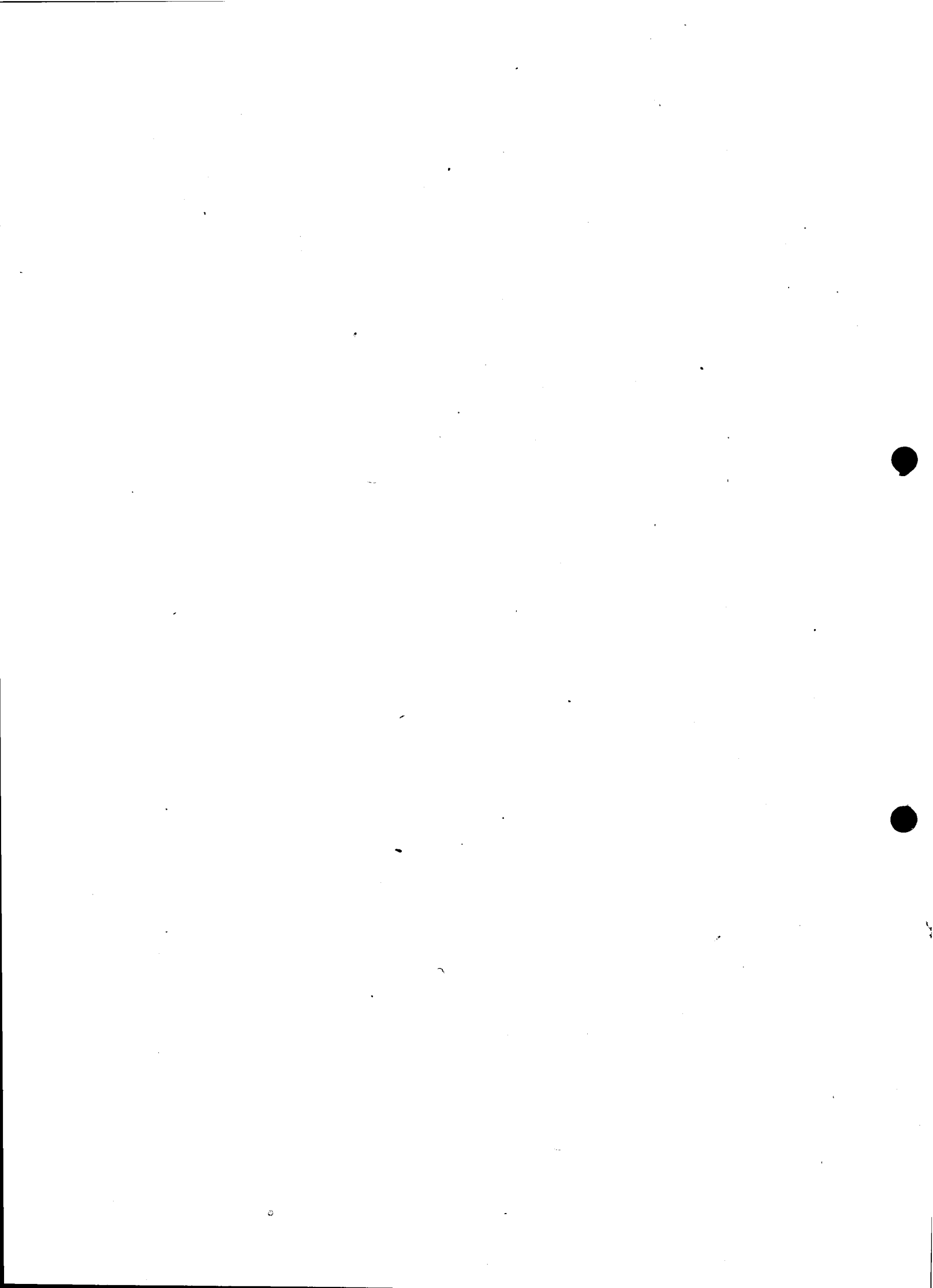
İLLER BANKASI  
TİP PROJELERİ

# KULE ÇIKIŞLI 6 HÜCRELİ 6,3-15 KV. TRANSFORMATÖR BİNASI

(SATIS İÇİN BASTIRILMIŞTIR)

## İ Ç İ N D E K İ L E R

	PLÂN NO:
MONTAJ PLÂNI .....	1/46
MİMARİ PROJESİ .....	1/47
BETONARME RESİMLERİ .....	1/44
BETONARME HESAPLARI .....	1/45
KAPI VS. DETAY PLÂNLARI .....	1/60

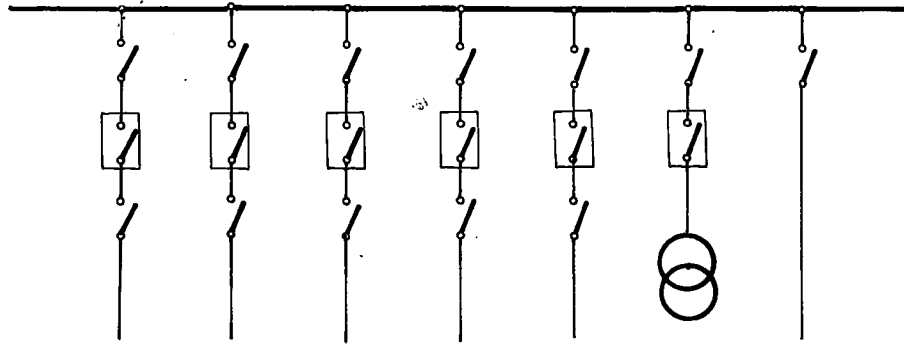


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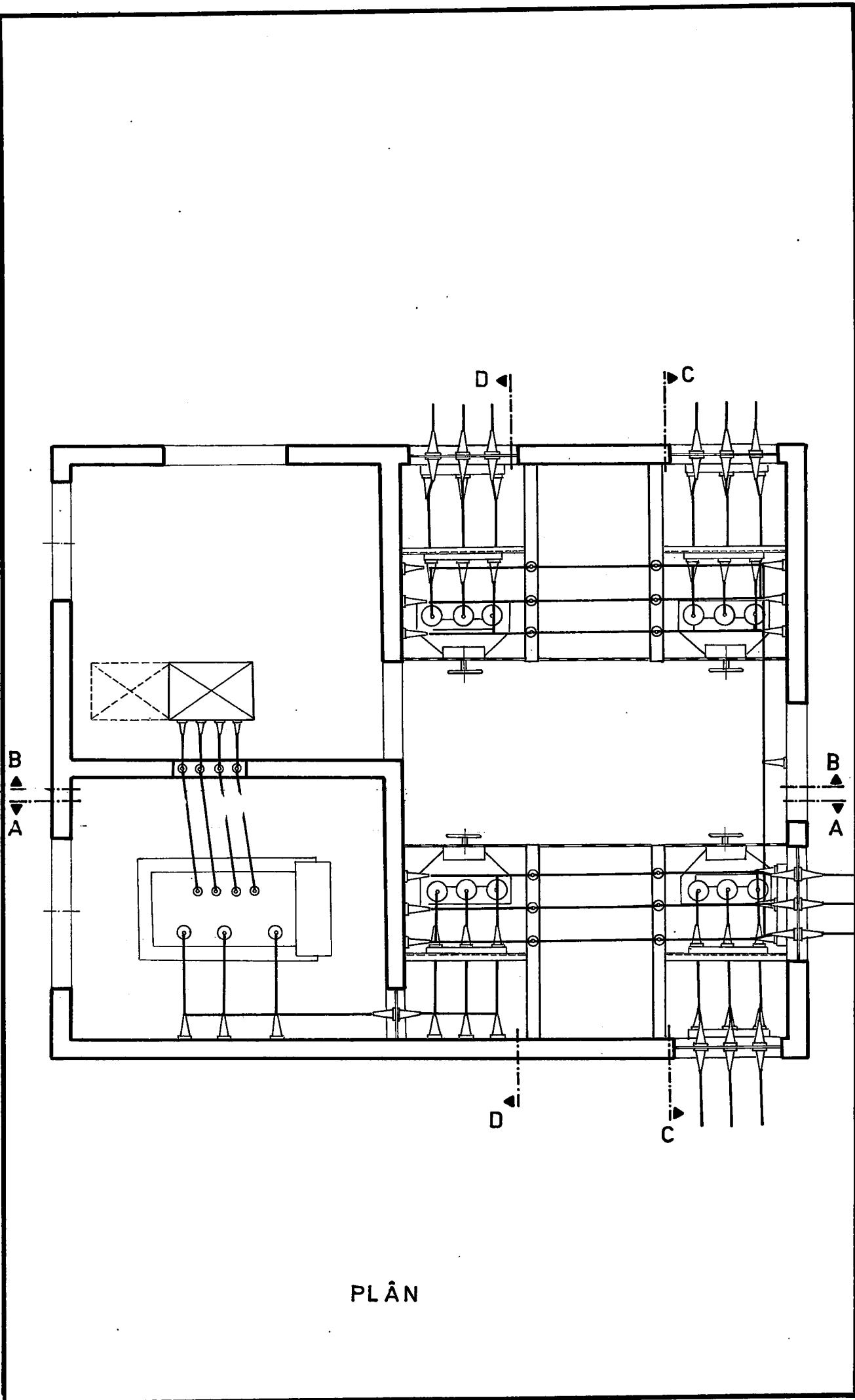
73

56

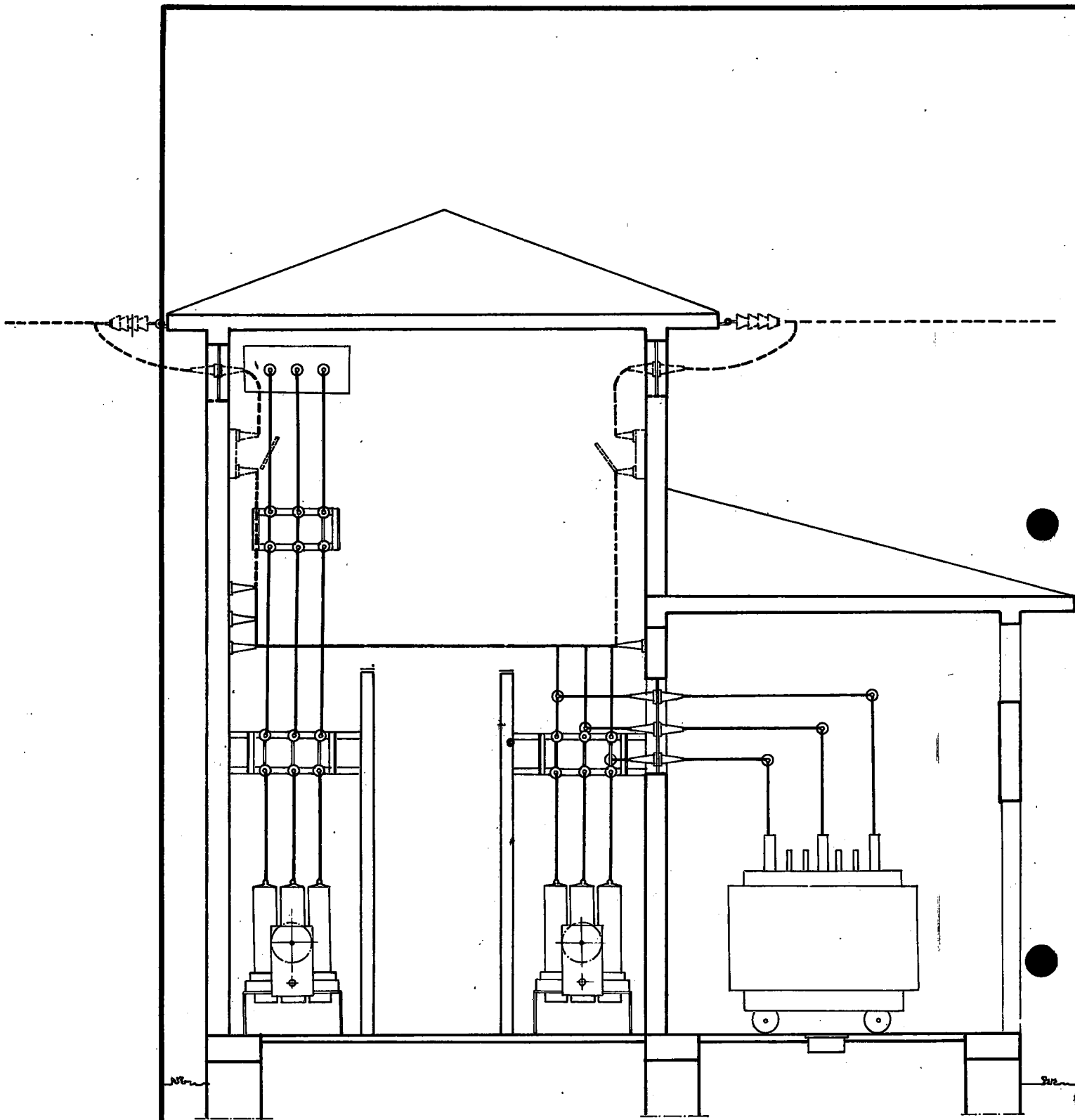
DEĞİŞİKLİK			TARİH	İMZA
a)				
b)				
6.3.15 KV. 6 HÜCRELİ KULE ÇIKISLI TİP TRANSFORMATÖR BİNASI MONTAJ PLÂNI			ÖLÇEK 1/50	
			NO.LU PLÂN İPTAL EDİLDİ	
			NO.LU PLÂN İPTAL EDİLDİ	
PROJİYİ YAPANIN, DIPL. NO, ÜNVANI, ADI, SOYADI	İMZA	İMZA TARİHİ	PLÂN NO 117. 1/46	ARŞİV KAYIT NO
Yük. Müh HÜSEYİN BODUR OPA NO: 343				
ÇİZEN : SAVAŞ BAYIR.				
			İLLER BANKASI ENERJİ DAİRESİ REİSLİĞİ	



ŞALT ŞEMASI

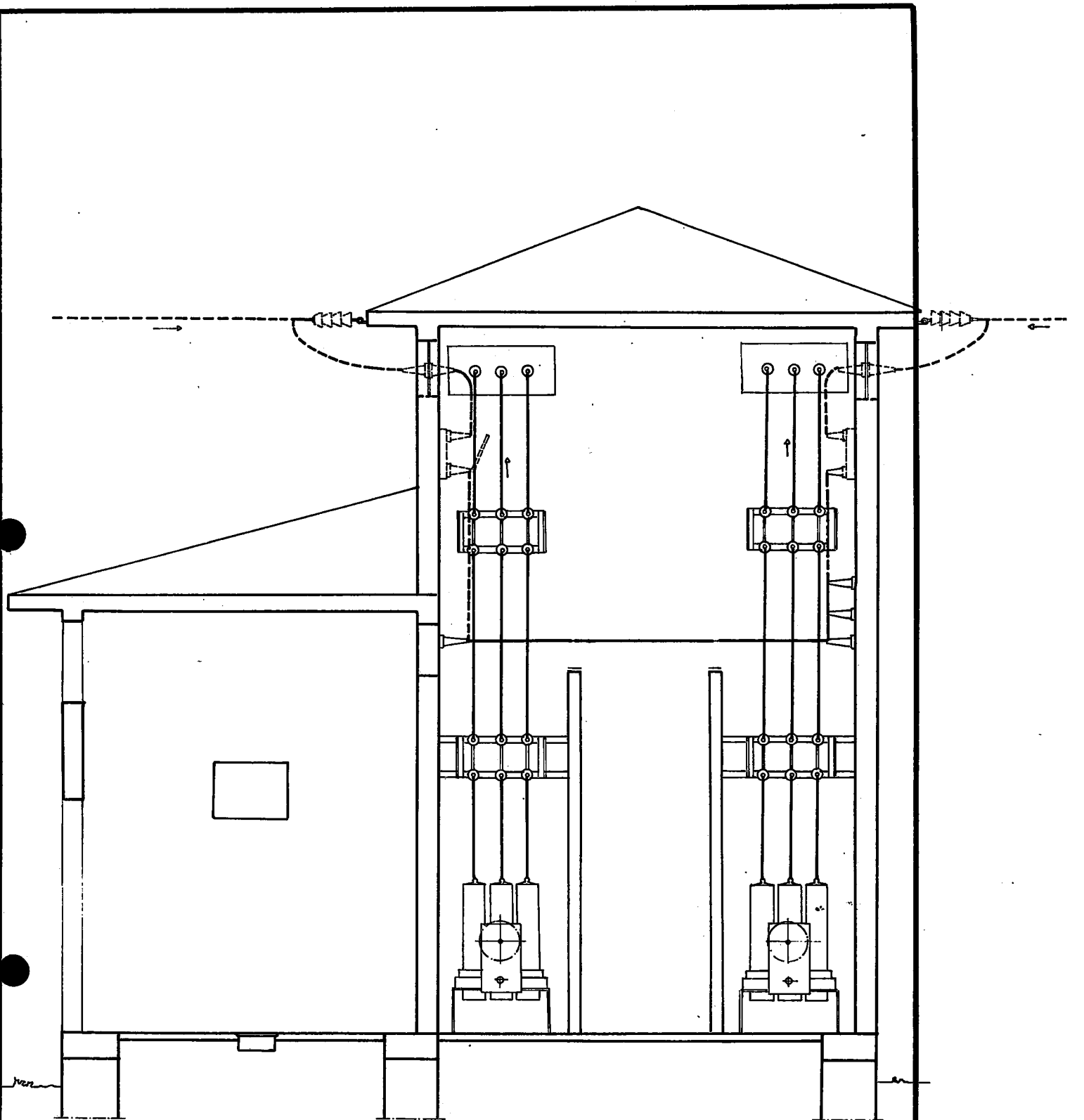


PLÂN

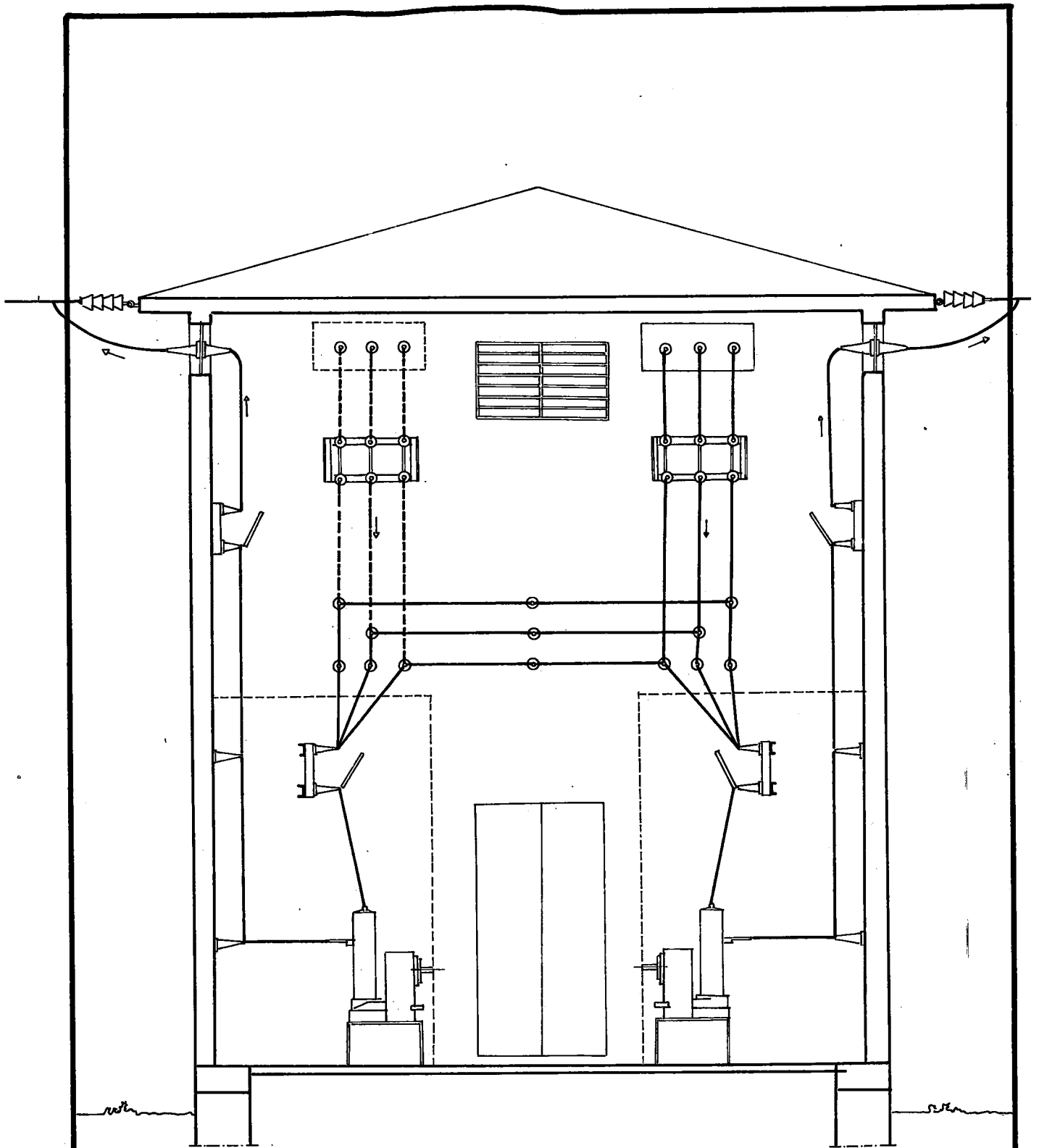


V.

A-A KESİTİ

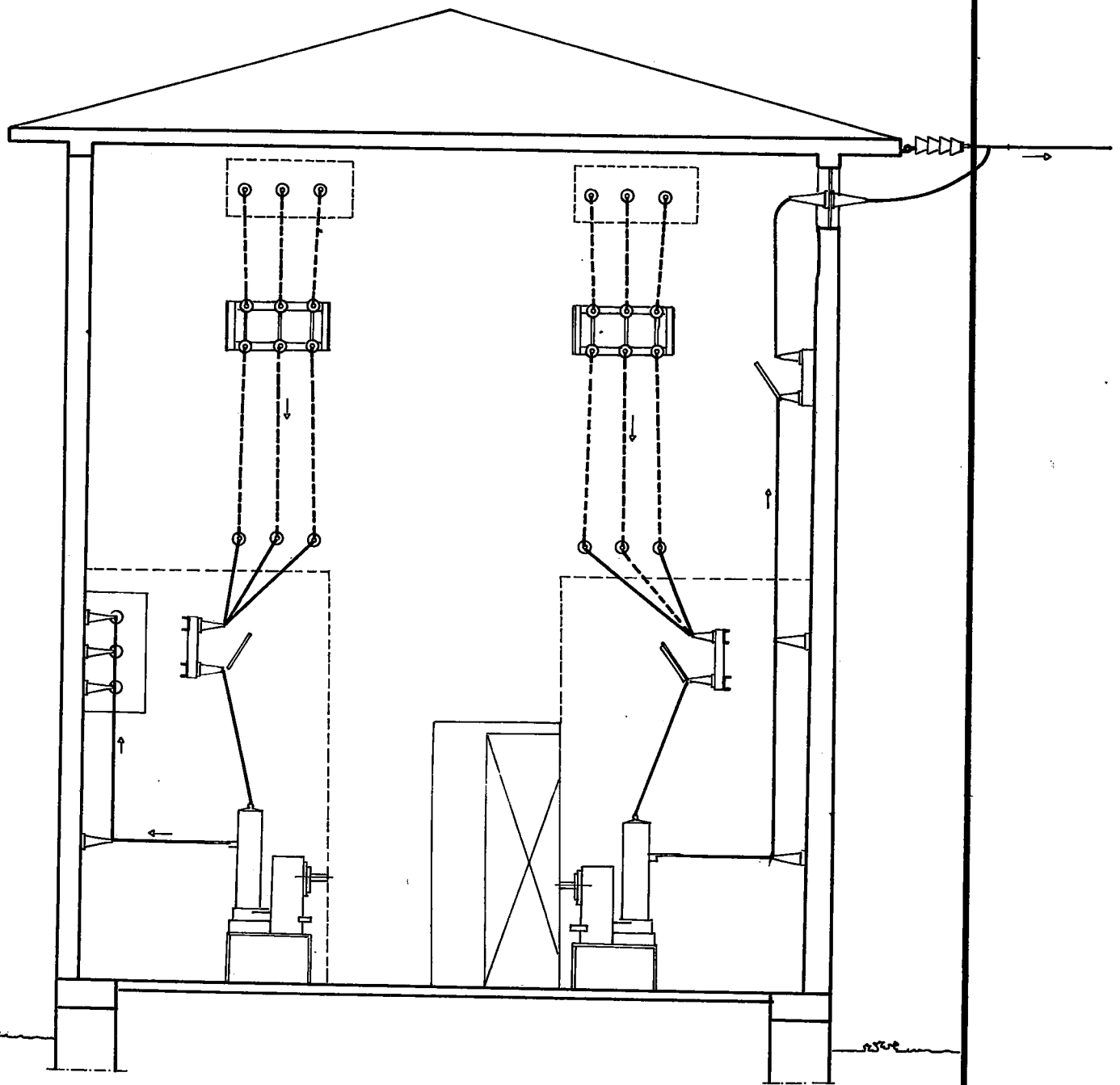


B - B KESİTİ



C - C KESİTİ

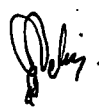




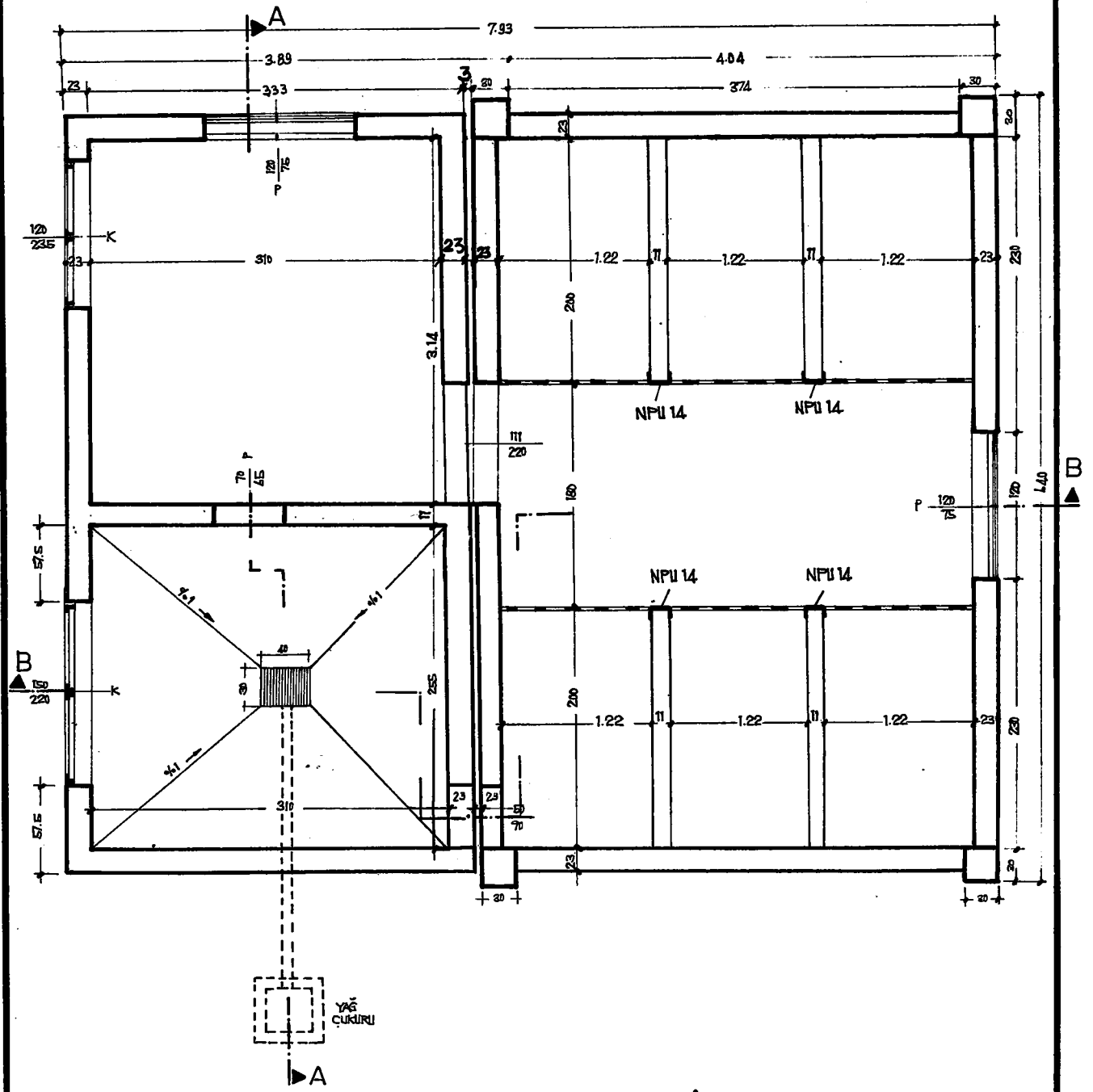
D-D KESİTİ

İLLER BANKASI

6H.K  
173  
56

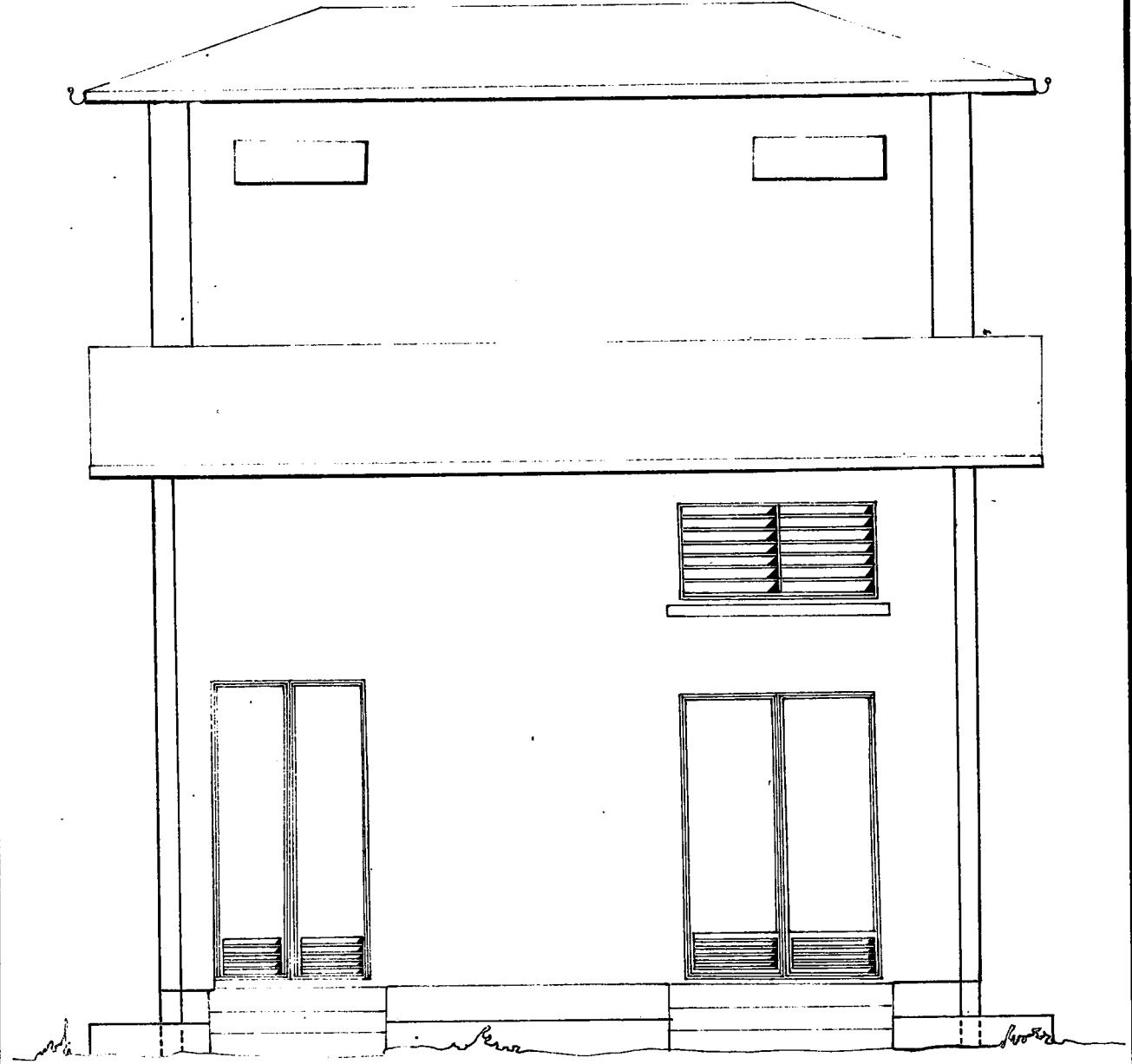
DEĞİŞİKLİK			TARİH	İMZA
a)			16.7.975	
b)				
6.3. 15 KV. 6 HÜCRELİ KULE ÇIKIŞLI TİP TRANSFORMATÖR BİNASI MİMARİ PROJESİ			ÖLÇEK : 1:50	
			No. Lİ: PLÂN İPTAL EDİLDİ	
			No. Lİ: PLÂN İPTAL EDİLDİ	
PROJESİ YAPANIN, DİPL. No. İNVAJİ, ADI, SOYADI	İMZA	İMZA TARİHİ	PLÂN No. 117. 1/47	
Yük. İnş. MÜH. CETİN PEKİNER ODP NO: 8730 - DİP. NO: 7453 TELEFON: 174701			ARSİV KAYIT No.	
ÇİZEN: HAYATİ ÜLGER.				

0.55m<sup>2</sup>

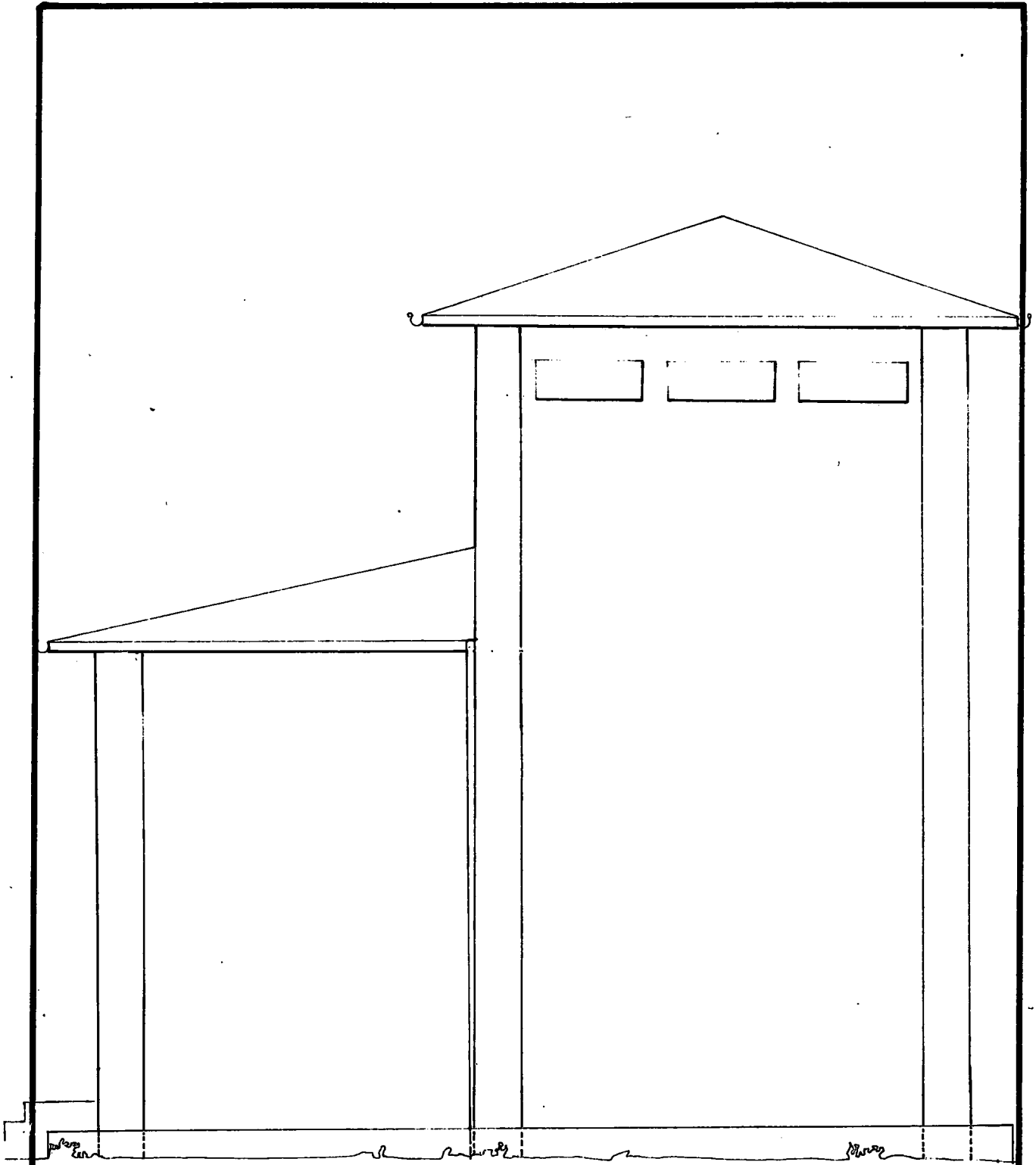




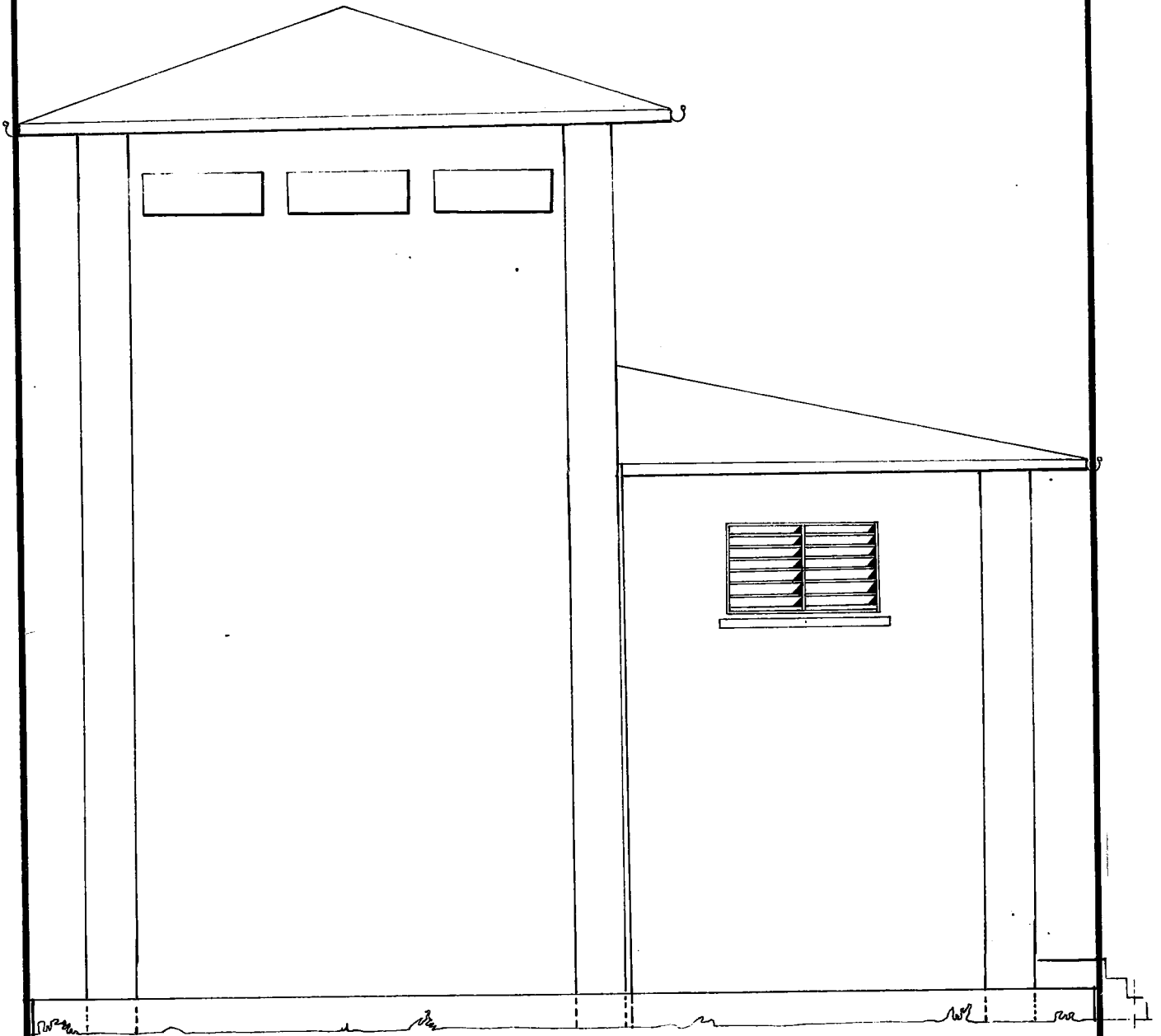




ÖN GÖRÜNÜŞ

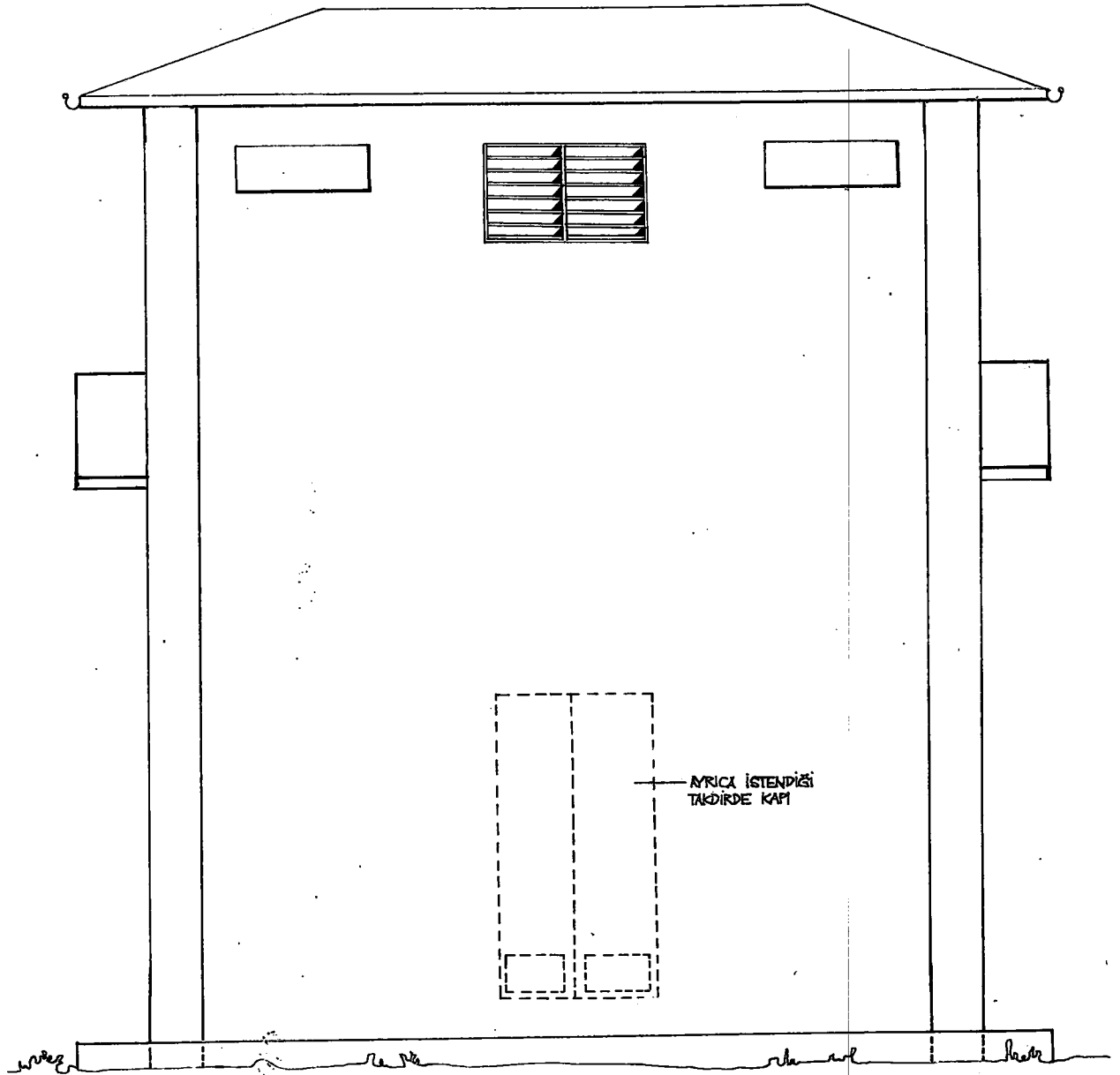


SAG YAN CEPHE



SOL YAN CEPHE



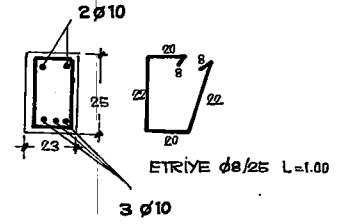
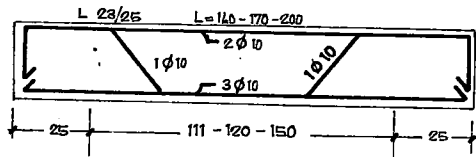
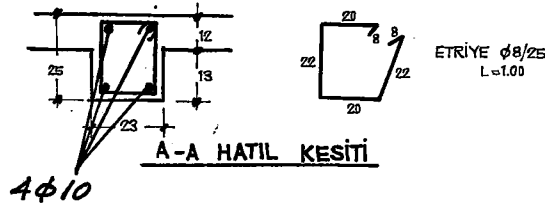
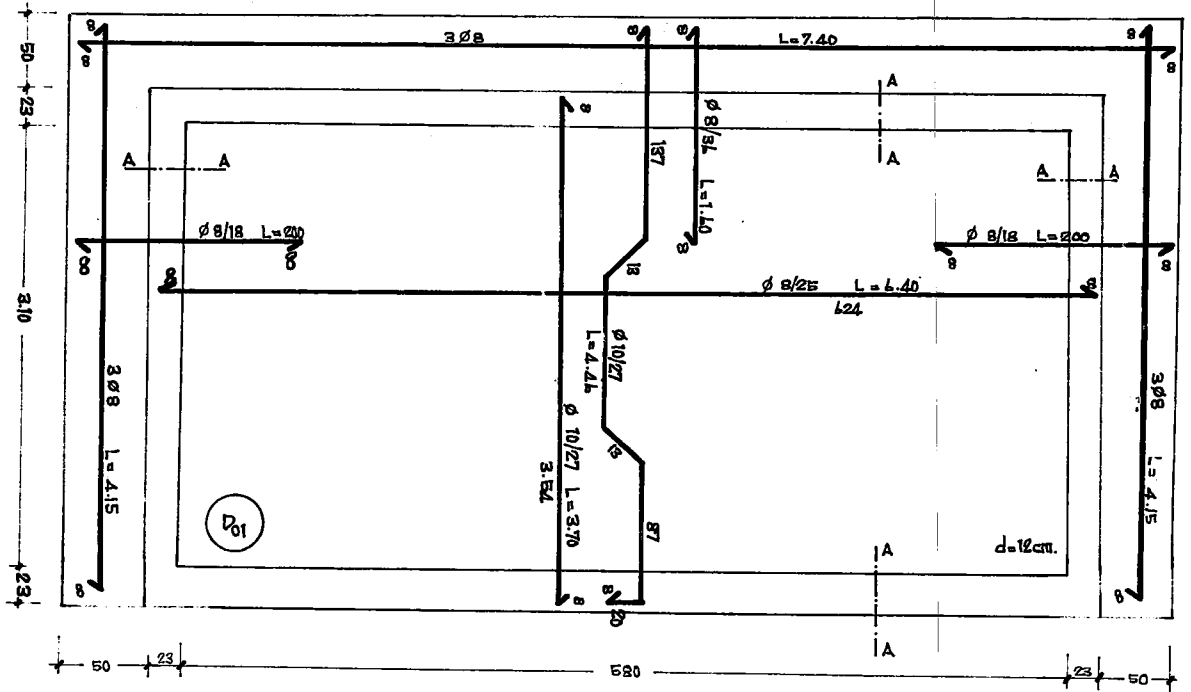


ARKA GÖRÜNÜŞ

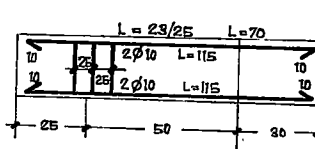
İLLER BANKASI

4H.K  
573  
56

DEĞİŞİKLİK		TARİH	İMZA
a)		16.7.1975	
b)			
30 - 34.5 KV.4 HÜCRELİ 15KV. 6 HÜCRELİ KULE ÇIKIŞLI TİP TRANSFORMATÖR BİNASI BETONARME RESİMLERİ		ÖLÇEK 1/50	
		NO.LII PLÂN İPTAL EDİLDİ	
		NO.LII PLÂN İPTAL EDİLDİ	
PROJİYİ YAPANIN .DİPL NO.ÜNVANI.ADI.SOYADI YÜK.İNŞ.MÜH. ÇETİN PEKİNER OPA NO : 8730 - DİP.NO : 7453 TELEFON : 174701 ÇİZEN : <i>SÖZBİLİR</i>	İMZA <i>Çetin Pekiner</i>	İMZA TARİHİ	İLLER BANKASI ENERJİ DAİRESİ REİSLİĞİ PLÂN NO 116-1/44 ARŞİV KAYIT NO

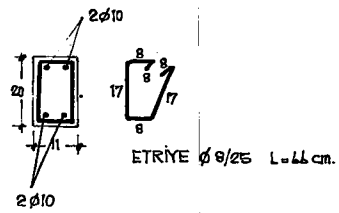
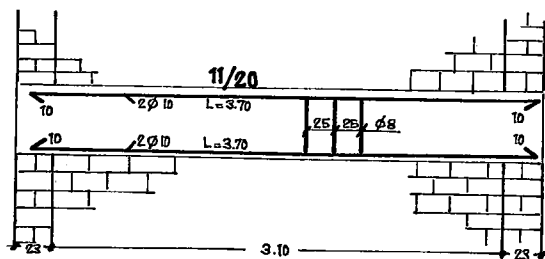


**11/220 - 120/235 - 150/220 KAPI LENTOLARI**

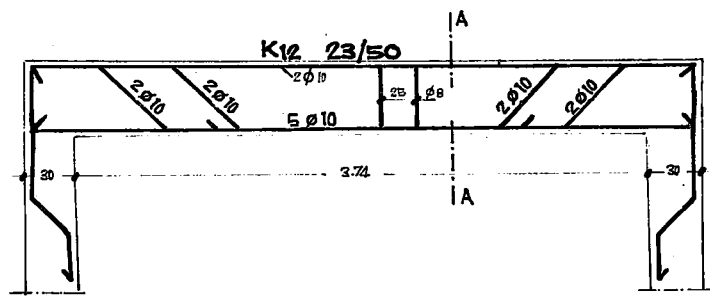
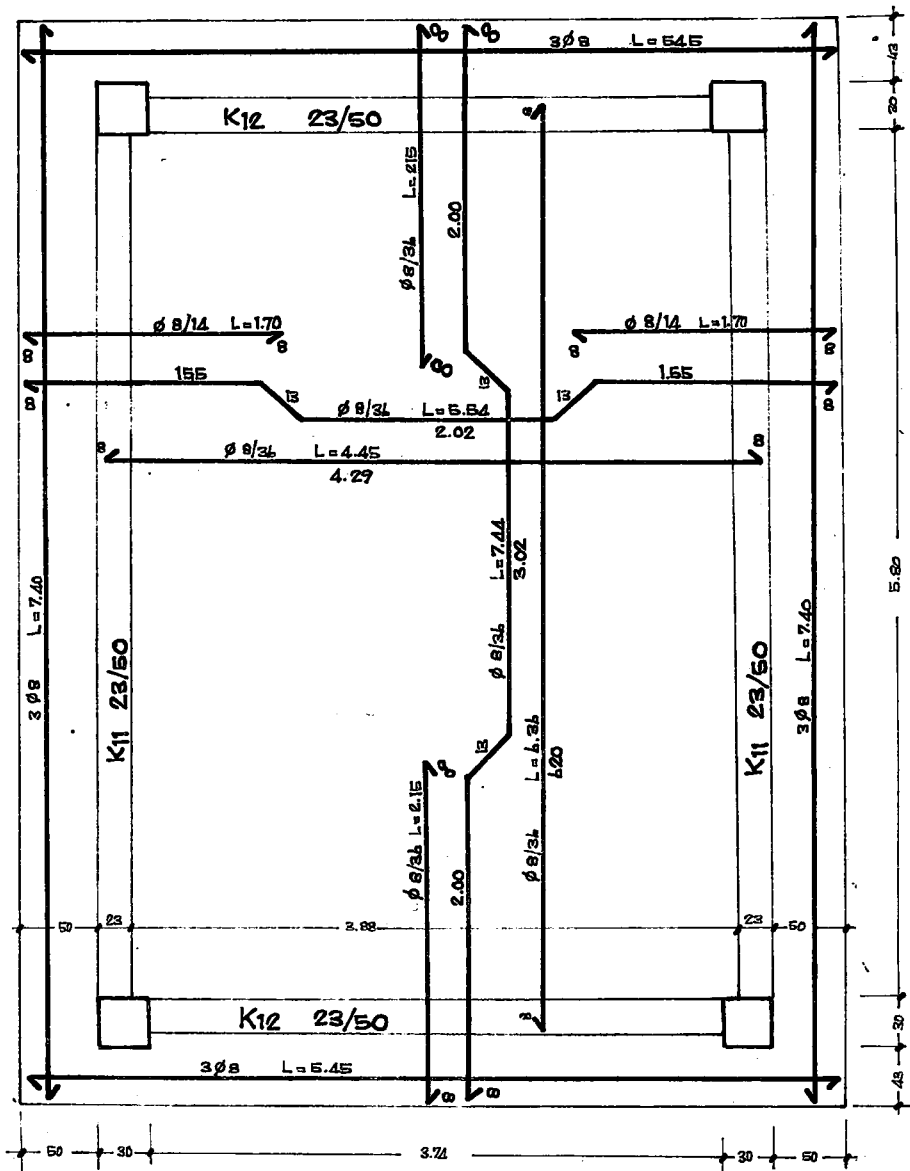


ETRİYE Ø8/25 L=100

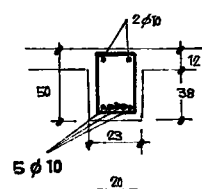
**50/70 PENCERE LENTOSU**



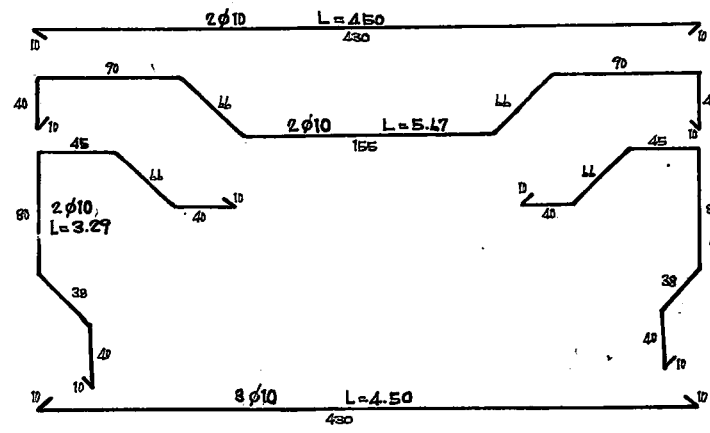
**TRAFÖ ARA BÖLMESİ  
YARIM TUĞLA DUVAR ARA HATILI**

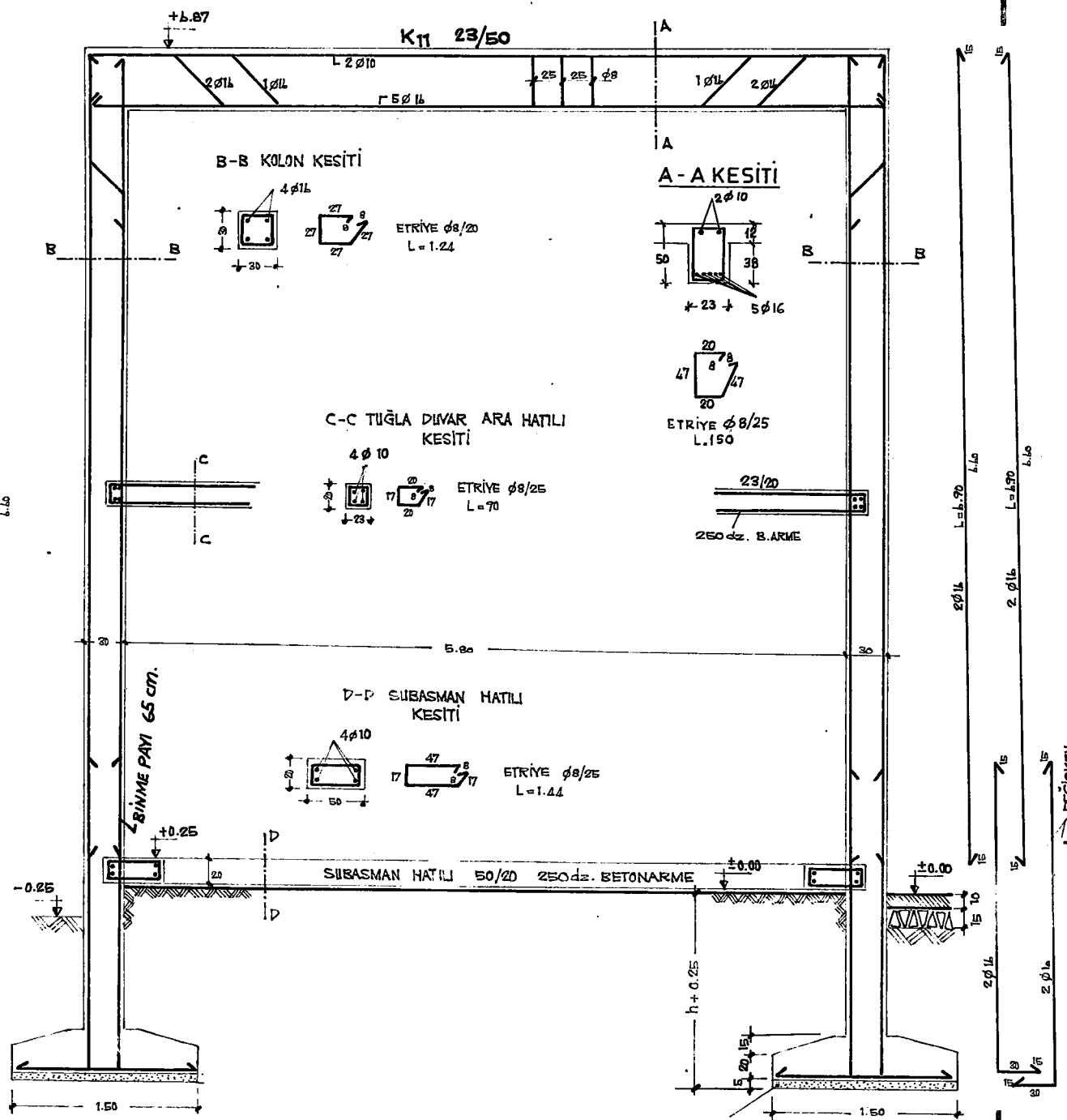
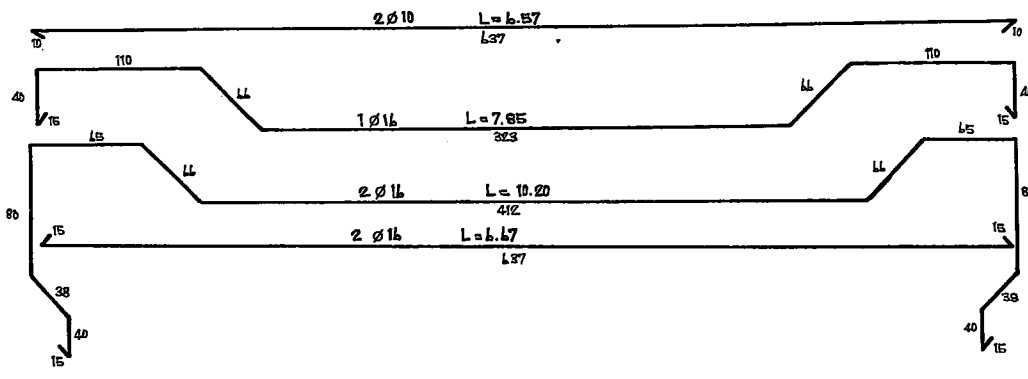


A-A KESİTİ

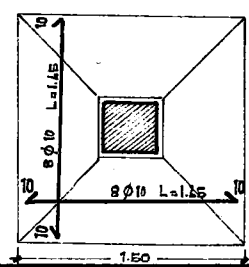
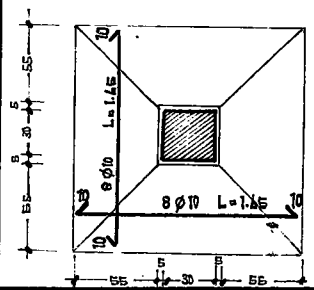


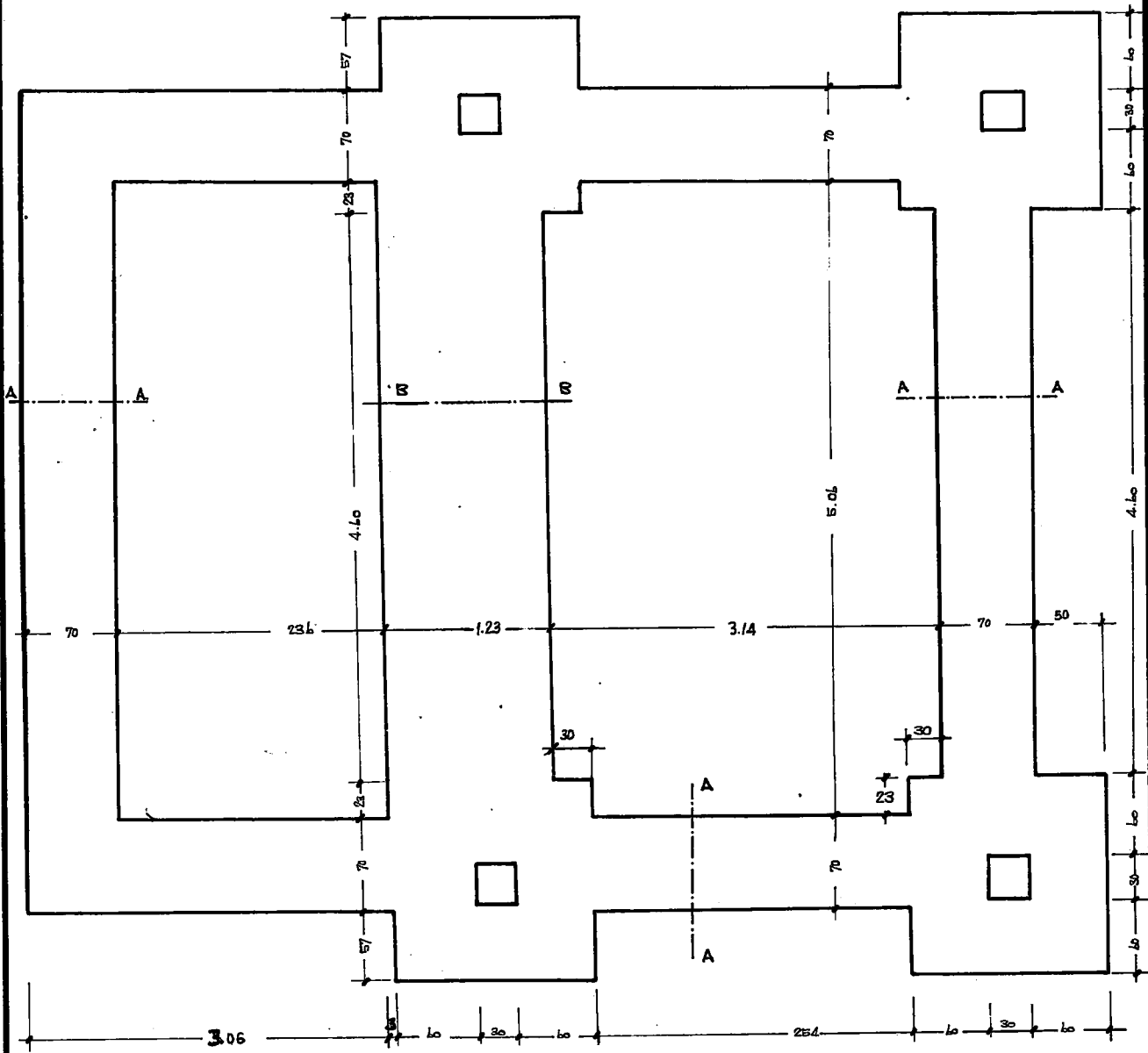
ETRIYE φ8/25 L=1.50



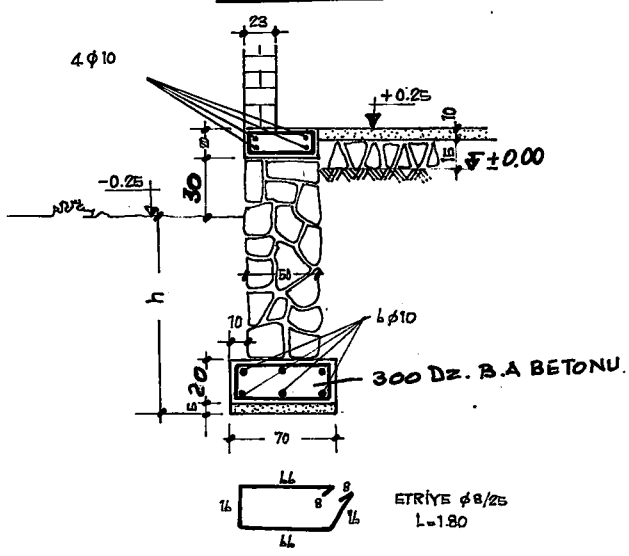


NOT :  $h = (1.00)m.$  den AZ OLMAMAK ÜZERE MAHALLİNDE KONTROLLUKÇA TESPİT EDİLECEKTİR.

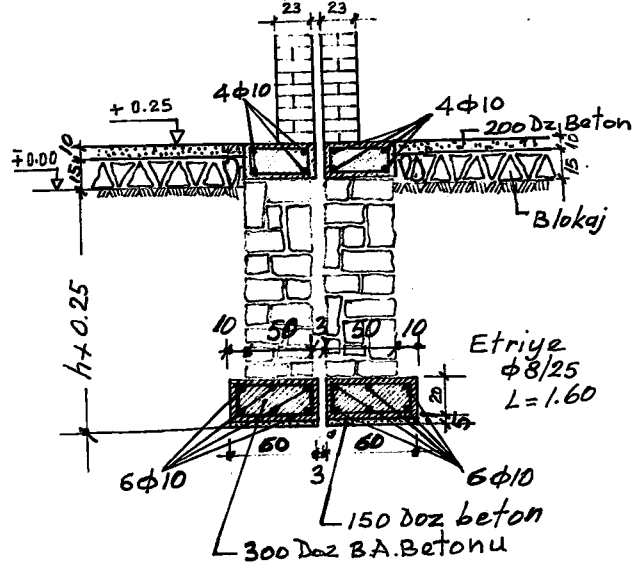




**A-A KESİTİ**

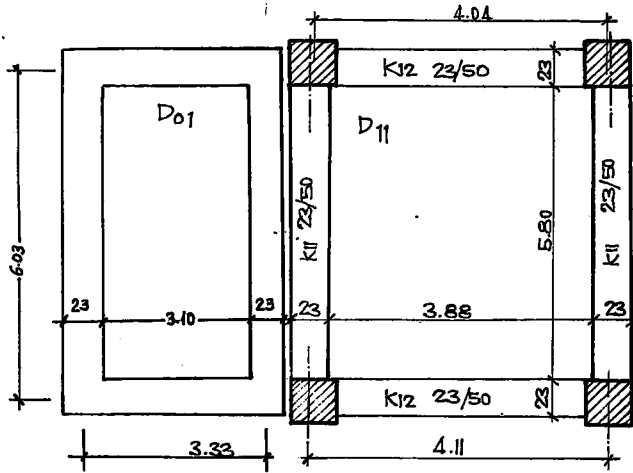


**B-B KESİTİ**



(34,5KV - 4 HÜCRELİ) 15 KV- 6 HÜCRELİ KULELİ

TRANSFORMATOR BİNASI BETONARME HESAPLARI



st I B 160

Yük : Döşeme zati =  $0.12 \times 2.4 = 0.288 \text{ t/m}^2$

SNa =  $0.057 \text{ t/m}^2$

Çatı =  $0.100 \text{ t/m}^2$

Kar. =  $0.075 \text{ t/m}^2$

$\rho = 7 = 0.520 \text{ t/m}^2$

D01 DÖŞEMESİ :  $E = \frac{603}{333} = 1.81$  tek doğrultu.

$M = \frac{0.520 \times 3.33^2}{8} = 0.72 \text{ tm.}$

$h = 10 \text{ cm.}$

$C_b = 48 \text{ kg/cm}^2 \quad f_c = 5.80 \text{ cm}^2$

donatı  $\phi 10/13^5$  (1 düz 1 plye)

diğer doğrultu tevzi  $\phi 8/25$

D11 DÖŞEMESİ :

$E = \frac{6.03}{4.11} = 1.46$

$\alpha_L = 0.03050$

$\beta_L = 0.00671$

$\mu_L = 0.2196$

$\rho_L = 0.1804$

Max  $M_x = 0.03050 \times 0.520 \times 4.11^2 = 0.268 \text{ tm.}$

Max  $M_y = 0.00671 \times 0.520 \times 6.03^2 = 0.127 \text{ tm.}$

$X = -\frac{1}{12} 0.2196 \times 0.520 \times 4.11^2 = 0.600 \text{ tm.}$

$Y = -\frac{1}{12} 0.1804 \times 0.520 \times 6.03^2 = 0.290 \text{ tm.}$

X doğrultusu  $M_x = 26.8 \text{ tcm.} \quad h = 10 \text{ cm.} \quad C_b = 26 \text{ kg/cm}^2 \quad f_c = 2.08 \text{ cm}^2$  donatı  $\phi 8/18$  (1 düz 1 plye)

Y "  $M_y = 12.7 \text{ "} \quad h = 7.5 \text{ cm.} \quad C_b = 18 \text{ kg/cm}^2 \quad f_c = 1.12 \text{ cm}^2$  donatı  $\phi 8/18$  (1 düz 1 plye)

X Mesneti  $x = 60.0 \text{ tcm.} \quad h = 10 \text{ cm.} \quad C_b = 42 \text{ kg/cm}^2 \quad f_c = 4.8 \text{ cm}^2$  mevcut  $\phi 8/36$

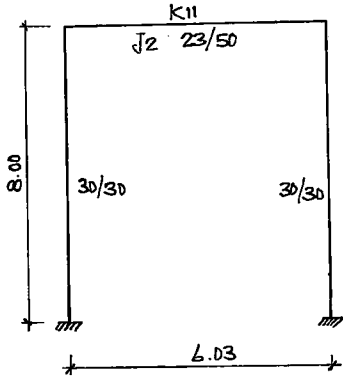
ilave  $\phi 8/14$

Y Mesneti  $y = 29.0 \text{ tcm.} \quad h = 10 \text{ cm.} \quad C_b = 28 \text{ kg/cm}^2 \quad f_c = 2.3 \text{ cm}^2$  mevcut  $\phi 8/36$

ilave  $\phi 8/36$

ÇERÇEVE HESABI:

Sistem her iki istikamette çerçeve olarak hesaplanacak



Kiriş atalet momenti  $b = 2.25d + b_1 = 2.25 \times 12 + 23 = 50 \text{ cm}^2$

$$\frac{b_0}{b} = \frac{23}{50} = 0.46$$

$$\frac{d}{d_1} = \frac{12}{50} = 0.24$$

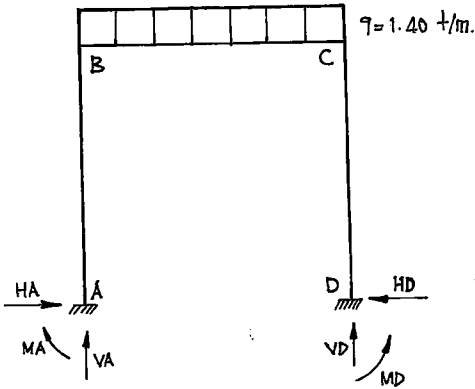
$$M = 18.7 \quad J_2 = \frac{50 \times 50^3}{18.7} = 33.12 \text{ dm}^4$$

$$J_1 = \frac{3 \cdot 0^4}{12} = 6.75 \text{ dm}^4$$

$$K = \frac{J_2}{J_1} \cdot \frac{h}{l} = \frac{33.12}{6.75} \cdot \frac{8.00}{6.03} = 6.6$$

$$N_1 = 6.6 + 2.0 = 8.6$$

$$N_2 = 6 \times 6.6 + 1 = 40.6$$

ZATI YÜK:

$$\begin{aligned} \text{Yük: döşemeden} &= 0.404 \times 0.520 \times 2.11 = 0.860 \text{ t/m.} \\ \text{Sacaktan} &= 0.50 \times 0.520 = 0.260 \text{ "} \\ \text{kiriş zati} &= 0.23 \times 0.50 \times 2.4 = 0.280 \text{ "} \\ &= 1.40 \text{ t/m.} \end{aligned}$$

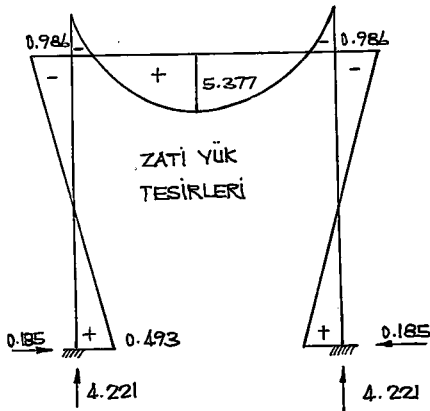
$$M_A = M_D = \frac{1.40 \times 6.03^2}{12 \times 8.6} = 0.493 \text{ tm.}$$

$$M_B = M_C = \frac{1.40 \times 6.03^2}{6.86} = 0.986 \text{ tm.}$$

$$\text{Max } M = \frac{1.40 \times 6.03^2}{8} - 0.986 = 5.377 \text{ tm.}$$

$$V_A = V_D = \frac{1.40 \times 6.03}{2} = 4.221 \text{ ton.}$$

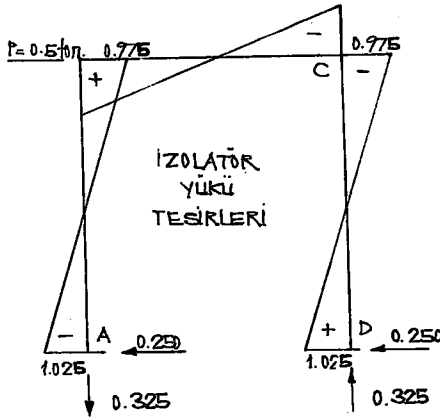
$$H_A = H_D = \frac{3 \times 0.493}{8.00} = 0.185 \text{ ton.}$$





İZOLATÖR YÜKÜ:

$P = 0.500 \text{ ton.}$



$$\begin{matrix} MA \\ MD \end{matrix} \left. \vphantom{\begin{matrix} MA \\ MD \end{matrix}} \right\} = \mp \frac{0.500 \times 8.00}{2} \cdot \frac{1+3 \times 6.6}{40.6} = \begin{matrix} -1.025 \\ +1.025 \end{matrix}$$

$$\begin{matrix} MB \\ MC \end{matrix} \left. \vphantom{\begin{matrix} MB \\ MC \end{matrix}} \right\} = \pm \frac{0.500 \times 8.00}{2} \times \frac{3 \times 6.6}{40.6} = \begin{matrix} +0.975 \\ -0.975 \end{matrix}$$

$$VA = VD = \frac{2 \times 0.975}{6.03} = 0.325$$

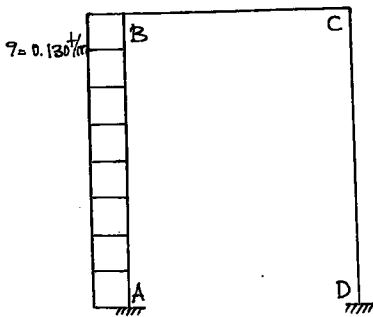
$$HA = HD = \frac{0.500}{2} = 0.250$$

TAM RÜZGÂR:

RÜZGÂR YÜKÜ:

$W = 1.2 \times 50 = 60 \text{ kg/m}^2$

$q = 60 \times \frac{4.34}{2} = 130 \text{ kg/m.}$



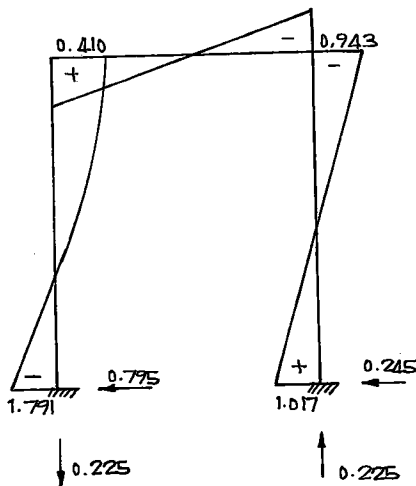
$$\begin{matrix} MA \\ MD \end{matrix} \left. \vphantom{\begin{matrix} MA \\ MD \end{matrix}} \right\} = \frac{0.130 \times 8.6^2}{4} \left( -\frac{3+6.6}{6 \times 8.6} \mp \frac{1+4 \times 6.6}{40.6} \right) = \begin{matrix} -1.791 \text{ tm.} \\ +1.017 \text{ tm.} \end{matrix}$$

$$\begin{matrix} MB \\ MC \end{matrix} \left. \vphantom{\begin{matrix} MB \\ MC \end{matrix}} \right\} = \frac{0.130 \times 8.6^2}{4} \left( -\frac{6.6}{6 \times 8.6} \pm \frac{2 \times 6.6}{40.6} \right) = \begin{matrix} +0.410 \text{ tm.} \\ -0.943 \text{ tm.} \end{matrix}$$

$$VA = VD = \frac{0.130 \times 6.6 \times 8.6^2}{6.03 \times 40.6} = 0.225 \text{ ton.}$$

$$HD = \frac{0.130 \times 8.00 (3+2 \times 6.6)}{8 \times 8.6} = 0.215 \text{ ton.}$$

$$HA = - (0.130 \times 8.00 - 0.215) = -0.795 \text{ ton.}$$



K11-ÇERÇEVE KIRISI HESABI:

$$M_{\max} = 537,7 \text{ ton.}$$

$$\varphi = \frac{d}{h} = \frac{12}{47} = 0,26$$

$$i_3 = 0,797 \quad i_b = 1,37$$

$$G_b/d_e = 50/1400$$

$$b = \frac{1,37 \times 537,7}{47^2} = 33,3 \text{ cm.} < b_{\max} = 4,5 \times 12 + 23 = 77 \text{ cm.}$$

$$f_e = \frac{0,797 \times 537,7}{47} = 9,12 \text{ cm}^2$$

Donatı üstte 2φ10

Alttta 5φ16 (3filie) (10,05 cm<sup>2</sup>)

MESNET TAHKİKİ:  $X_{\max} = -98,6 - 97,5 - 94,3 = -290,4 \text{ ton.}$

$$K_2 = 47 \sqrt{\frac{23}{290,4}} = 13,3 \rightarrow C_b = 41 \text{ Kg/cm}^2 \quad K_3 = 0,795$$

$$f_e = \frac{0,795 \times 290,4}{47} = 4,91 \text{ cm}^2$$

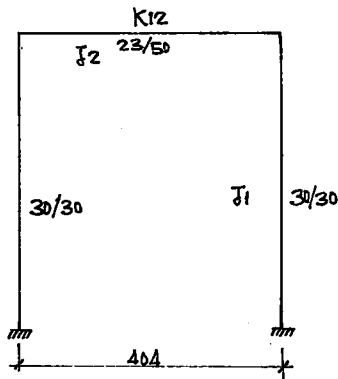
Donatı mevcut 2φ10 + 3φ16 (7,60 cm<sup>2</sup>)  
Kafi ilave istemezKAYMA TAHKİKİ:

$$Q = 4,771 \text{ ton.}$$

$$Z = 0,898 \times 47 \cong 42$$

$$C_s = \frac{4,771}{23 \times 42} = 4,94 \text{ Kg/cm}^2 < C_{\text{em}} = 6 \text{ Kg/cm}^2$$

etr. φ8/25

K12 ÇERÇEVESİ:KIRIS ATALET MOMENTİ:

$$b = 2,25 \times 12 + 23 = 50 \text{ cm.}$$

$$\frac{b_0}{b} = \frac{23}{50} = 0,46$$

$$\frac{d}{d_0} = \frac{12}{50} = 0,24$$

$$M = 18,7$$

$$J_2 = \frac{5 \times 5^3}{18,7} = 33,42$$

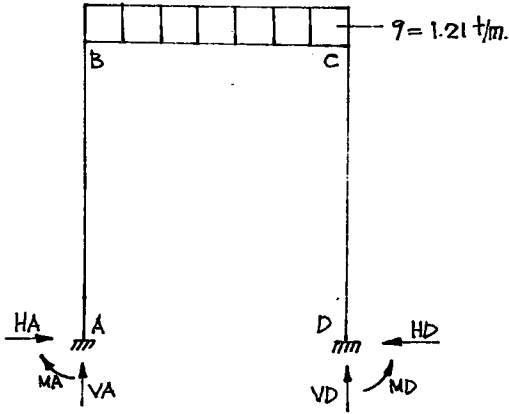
$$J_1 = \frac{3^4}{12} = 6,75$$

$$K = \frac{33,42}{6,75} \times \frac{8,00}{4,04} = 9,8$$

$$N_1 = 9,8 + 2,0 = 11,8$$

$$N_2 = 6 \times 9,8 + 1,0 = 59,8$$

ZATI YÜK:



Yük: döşemeden =  $0,313 \times 0,520 \times 4,11 = 0,67$  t/m.  
 Sacak =  $0,50 \times 0,520 = 0,26$  "  
 Kiriş zati =  $0,23 \times 0,50 \times 2,4 = 0,28$  "  
 1,21 t/m.

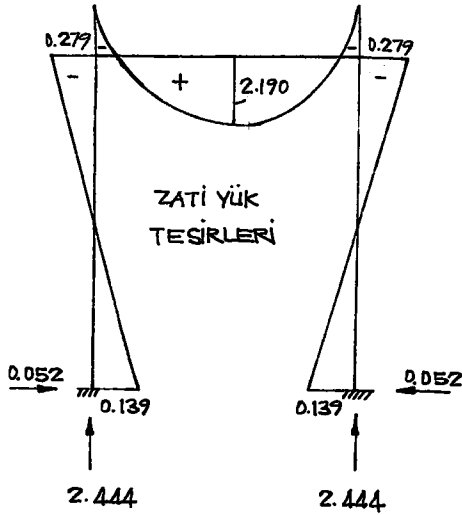
$$M_A = M_D = \frac{1,21 \times 4,04^2}{12 \times 11,8} = 0,139 \text{ tm.}$$

$$M_B = M_C = \frac{1,21 \times 4,04^2}{6 \times 11,8} = 0,279 \text{ tm.}$$

$$M_{\max} M = \frac{1,21 \times 4,04^2}{8} - 0,279 = 2,190 \text{ tm.}$$

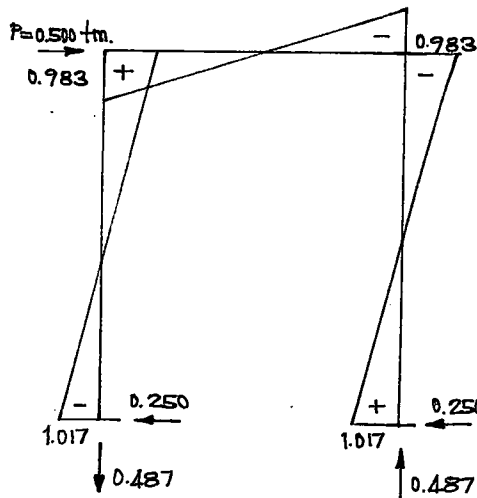
$$V_A = V_D = \frac{1,21 \times 4,04}{2} = 2,444 \text{ ton.}$$

$$H_A = H_D = \frac{3 \times 0,139}{8,00} = 0,052 \text{ ton.}$$



İZOLATÖR YÜKÜ:

$P = 0,500$  ton.



$$\begin{matrix} M_A \\ M_D \end{matrix} \begin{matrix} - \\ + \end{matrix} \frac{0,5 \times 8,00}{2} \times \frac{1+3 \times 9,8}{59,8} = \begin{matrix} -1,017 \\ +1,017 \end{matrix}$$

$$\begin{matrix} M_B \\ M_C \end{matrix} \begin{matrix} + \\ - \end{matrix} \frac{0,5 \times 8,00}{2} \times \frac{3 \times 9,8}{59,8} = \begin{matrix} +0,983 \\ -0,983 \end{matrix}$$

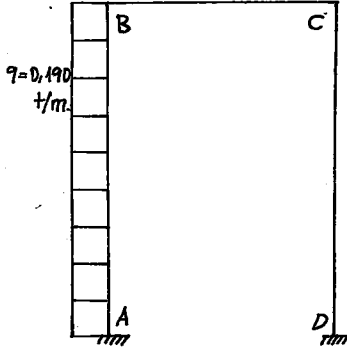
$$V_A = V_D = \frac{2 \times 0,983}{4,04} = 0,487$$

$$H_A = H_D = \frac{0,500}{2} = 0,250 \text{ ton.}$$

TAM RÜZGAR:RÜZGAR YÜKÜ:

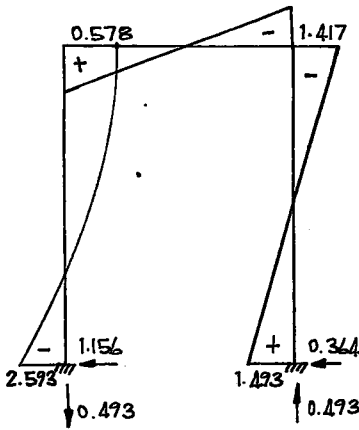
$$W = 1.2 \times 50 = 60 \text{ kg/m}^2$$

$$q = 60 \times \frac{6.26}{2} \approx 0.190 \text{ t/m}$$



$$\begin{matrix} MA \\ MD \end{matrix} \left\{ \frac{0.190 \times 8.0^2}{4} \left( -\frac{3+9.8}{6 \times 11.8} \mp \frac{1+4 \times 9.8}{59.8} \right) \right. = \left. \begin{matrix} -2.593 \\ +1.493 \end{matrix} \right.$$

$$\begin{matrix} MB \\ MC \end{matrix} \left\{ \frac{0.190 \times 8.0^2}{4} \left( -\frac{9.8}{6 \times 11.8} \pm \frac{2 \times 9.8}{59.8} \right) \right. = \left. \begin{matrix} +0.578 \\ -1.417 \end{matrix} \right.$$



$$VA = -VD = \frac{0.190 \times 9.8 \times 8.0^2}{4.04 \times 59.8} = 0.493$$

$$HD = \frac{0.190 \times 8.00 (3+2 \times 9.8)}{8 \times 11.8} = 0.364$$

$$HA = (0.190 \times 8.00 - 0.364) = 1.156$$

KIZ CERÇEVE KIRISI HESABI:

$$M_{max} = 219 \text{ tcm.} \quad \rho = \frac{d}{h} = \frac{12}{47} = 0.26 \quad \rightarrow \quad \frac{cb}{ce} = \frac{50}{1400} \quad i_a = 0.797 \quad i_b = 137$$

$$b = \frac{137 \times 219}{47^2} = 13.6 < b_{max} = 4.5 \times 12 + 23 = 77 \text{ cm.}$$

$$f_e = \frac{0.797 \times 219}{47} = 3.71 \text{ cm}^2$$

donatı üstte 2  $\phi 10$

Altta 5  $\phi 10$  (2 Pilye); 3.93 cm<sup>2</sup>

MESNET TAHKIKI:

$$X_{max} = -27.9 - 98.3 - 141.7 = -267.9 \text{ t/cm.}$$

$$K_2 = 47 \sqrt{\frac{23}{267.9}} = 13.7 \quad \rightarrow \quad cb = 40 \quad K_3 = 0.794$$

$$f_e = \frac{0.794 \times 267.9}{47} = 4.53 \text{ cm}^2$$

Mesnet 2  $\phi 10$  + 2  $\phi 10$  = 3,14

ilave 2  $\phi 10$  = 1,57

4.71 cm<sup>2</sup>

KAYMA TAHKIKI :

$$Q = 3.424 \text{ Ton.}$$

$$Z = 0,900 \times 47 \cong 42$$

$$C_0 = \frac{3424}{23 \times 42} = 3,55 \text{ Kg/cm}^2 < C_{0em} = 6 \text{ Kg/cm}^2 \quad \text{etr: } \phi 8/25$$

KOLON HESABI :

$$N \text{ zati} = 2,221 + 2,444 = 4,665 \text{ ton}$$

$$M_x \text{ zati} = 0,493 \text{ tm.}$$

$$M_y = 0,139$$

$$N \text{ izolaför} = 0,325 + 0,487 = 0,812 \text{ "}$$

$$M \text{ izolaför} = 1,025 \text{ "}$$

$$M_y = 1,017$$

$$N \text{ rüzgâr} = 0,493 \text{ "}$$

$$M \text{ rüzgâr} = \text{---} \text{ "}$$

$$M_y = 1,493$$

$$N \text{ kolon zati } (0,30^2 \times 8,00) \times 2,4 = \frac{1,728}{9,698} \text{ ton}$$

$$M_{\max} = 1,518 \text{ tm.}$$

$$M_y \text{ max} = 2,447 \text{ tm.}$$

$$C_0 = \frac{9,698}{30 \times 30} = 10,78 \text{ Kg/cm}^2$$

$$\frac{C_{bem}}{C_0} = \frac{70}{10,78} = 6,49$$

$$\gamma = \frac{M_x}{N_d} + \frac{M_y}{N_d}$$

$$\gamma = \frac{1,518}{9,698 \times 0,3} + \frac{2,447}{9,698 \times 0,3} = 1,48$$

$$\rightarrow \mu = \mu_0 = 0,004$$

$$F_e = F_e' = 0,004 \times 30 \times 30 = 3,6 \text{ cm}^2$$

$$F_e + F_e' = 3,6 + 3,6 = 7,2 \text{ cm}^2$$

$$\text{donatı } 4 \phi 16 \text{ (8,04 cm}^2)$$

$$\text{etr. } \phi 8/20$$

FLANBAJ TAHKIKI :

$$\rho = \frac{800}{30} = 27 \rightarrow w = 1,48$$

$$F_{em} = \frac{(K_b \cdot F_b + C_s \cdot F_e)}{3w}$$

$$K_b = 144$$

$$F_b = 30 \times 30 = 900 \text{ cm}^2$$

$$C_s = 2400$$

$$F_e = 8,04 \text{ cm}^2$$

$$F_{em} = \frac{144 \times 900 + 2400 \times 8,04}{3 \times 1,48} = 33,535 \text{ ton} > N = 9,698 \text{ ton.}$$

TEMEL HESABI :

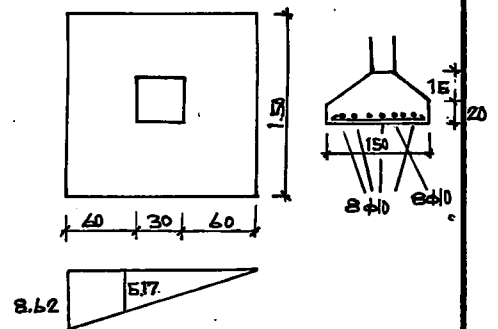
$$C_{zem} = 15 \text{ t/m}^2$$

$$e = \frac{M}{N} = \frac{2,447}{9,698} = 0,27$$

$$C_3 = \frac{9,698}{1,50 \times 1,50} \left( 1 + \frac{6 \times 0,25}{1,50} \right) = \begin{cases} 8,62 \text{ t/m}^2 \\ 0,00 \end{cases}$$

$$C_3' = (15 - 2 \times 1,00) = 13 \text{ t/m}^2 > 8,62 \text{ t/m}^2$$

$$M = \frac{1}{2} \times 5,17 \times 0,60 \times \frac{0,60}{3} + \frac{1}{2} \times 8,62 \times 0,60 \times \frac{2}{3} \times 0,60 = 1,34 \text{ tm.}$$



$$K_2 = 25 \sqrt{\frac{150}{134}} = 26,5$$

$$c_b = 18$$

$$K_3 = 0.755$$

$$f_e = \frac{0.755 \times 134}{25} = 4.05 \text{ cm}^2$$

Donatı 8  $\phi$  10  
Heriki istikamette

ENERJİ VE TABİİ KAYNAKLAR  
BAKANLIĞI

İLLER BANKASI ENERJİ DAİRESİ REİSLİĞİ

İLLER BANKASI  
BÖLGE MÜDÜRLÜĞÜ

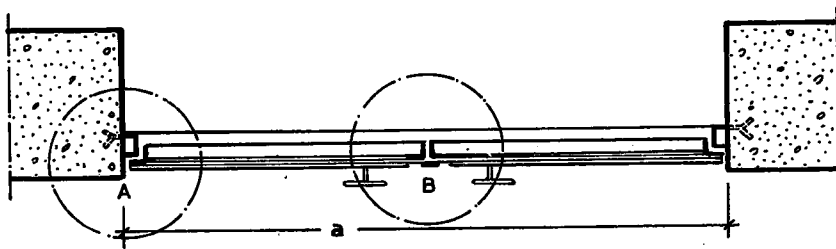
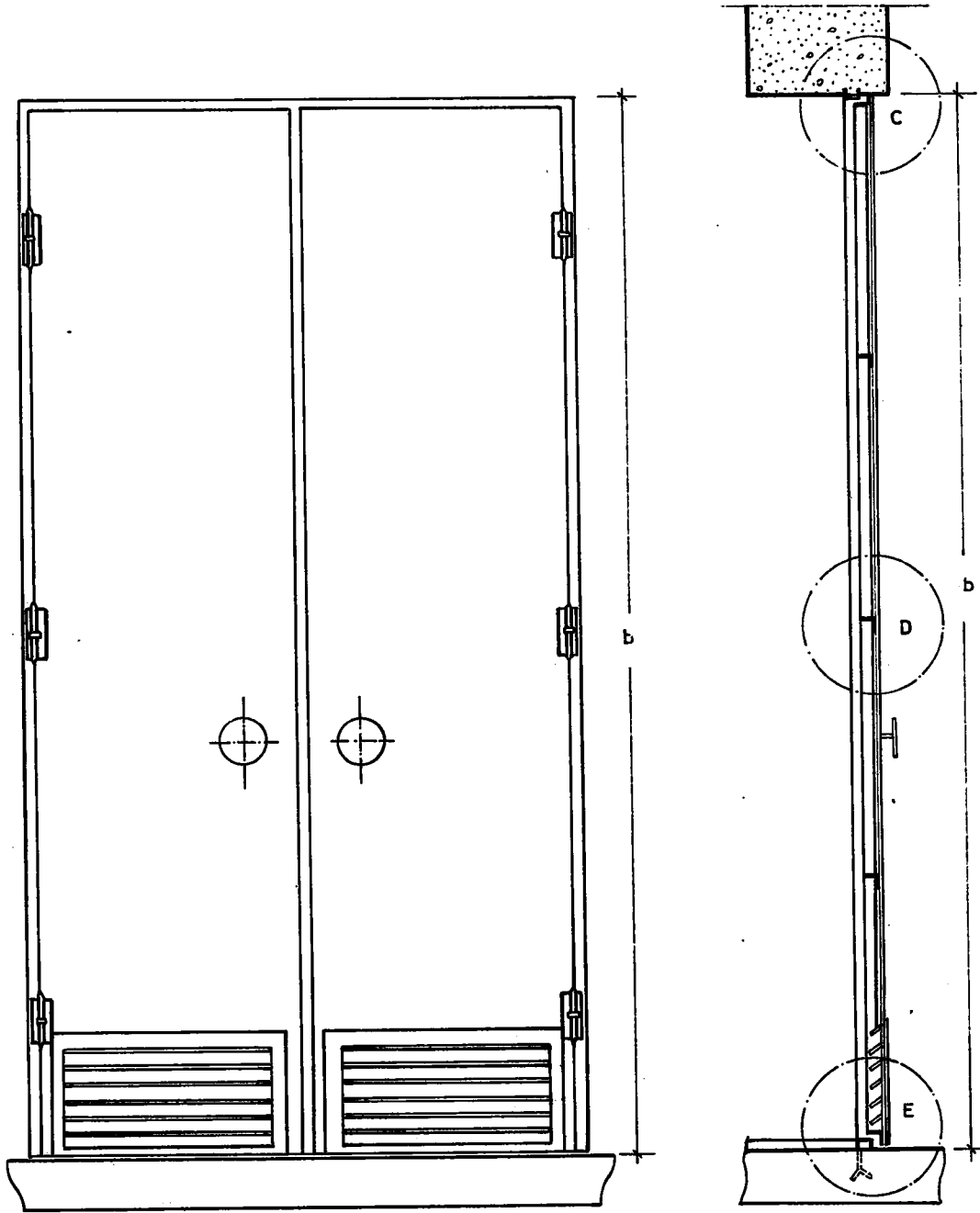
YÜKLENCİ

73

58

DEĞİŞİKLİK

DEĞİŞİKLİK SEBEBİ					
DEĞİŞİKLİĞE AİT PROJEYİ YAPANIN	ADI VE SOYADI	ÜNVANI	ODA NO.	TARİH	İMZA
TRAFO BİNALARI KAPI, PENCERE PANCUR, KABLO KANALI, TEL KAFES KAPI V.S DETAY PLÂNLARI					ÖLÇEK: NO: 00 PLÂN İPTAL EDİLDİ NO: 00 PLÂN İPTAL EDİLDİ
PROJEYİ YAPAN	İMZA	İMZA TARİHİ	İLLER BANKASI ENERJİ DAİRESİ REİSLİĞİ		PLÂN NO: 1/60 ARŞİV KAYIT NO:
YÜK. MÜH. HÜSEYİN BOĞUR ODA NO: 343		8.10.1973			
ÇİZEN: İKNOJ ŞENİZ					



- ŞEBEKE TRAF0 MERKEZLERİNDE VE TRAF0 KAPISINDA
- ŞEBEKE TRAFOLARINDA VE GİRİŞ KAPISINDA
- TEVZİ MERKEZLERİNDE VE GİRİŞ KAPISINDA

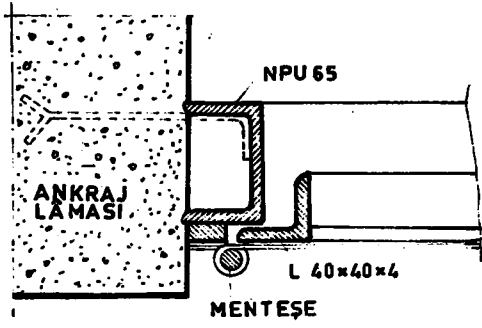
(a) cm.

(b) cm

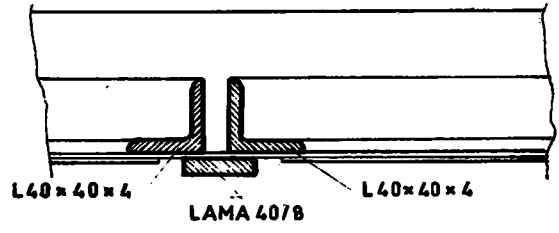
.....	.....
.....	.....
.....	.....

TRAF0 KAPI PLÂNI  
ÖLÇEK:1/15

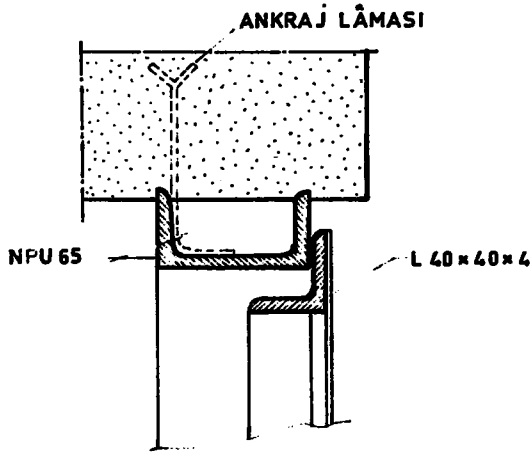




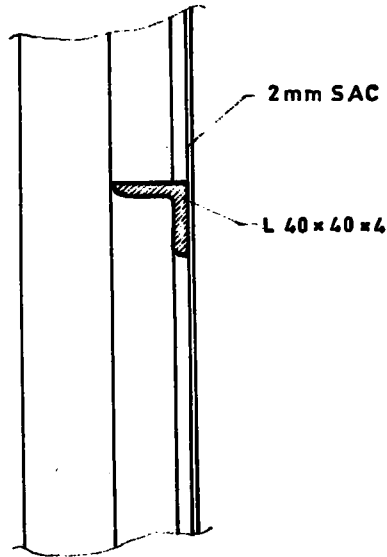
A DETAYI ÖLÇEK: 1/4



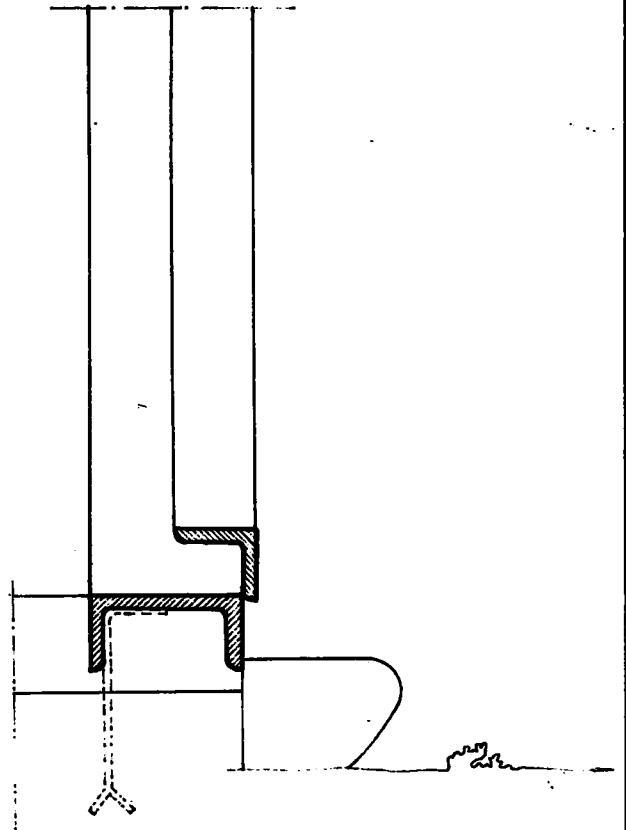
B DETAYI ÖLÇEK: 1/4



C. DETAYI ÖLÇEK: 1/4

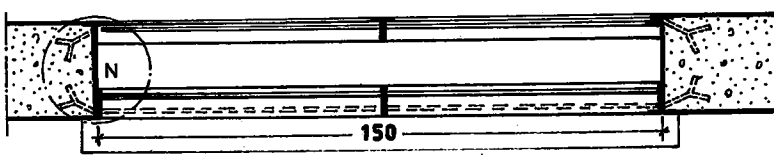
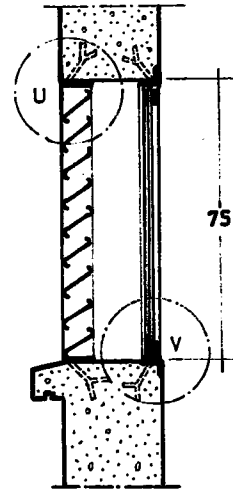
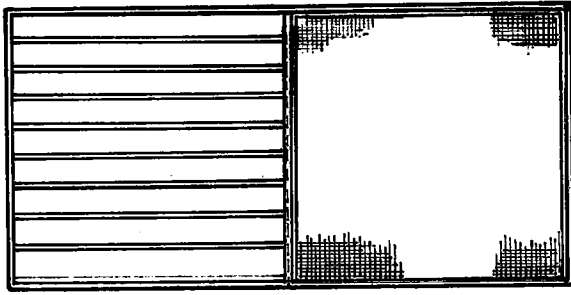


D DETAYI ÖLÇEK: 1/4



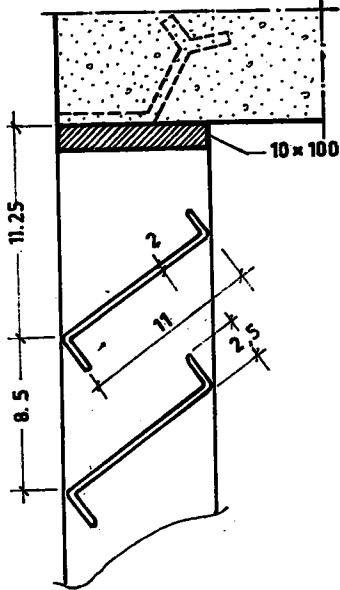
E DETAYI ÖLÇEK: 1/4

TRAFÖ KAPI DETAYLARI

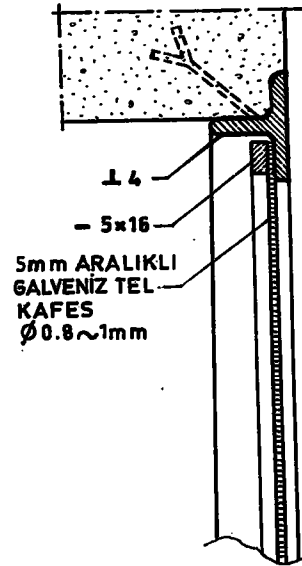


150x75 TRAF0 PENCERE TİPİ ÖLÇEK: 1/20

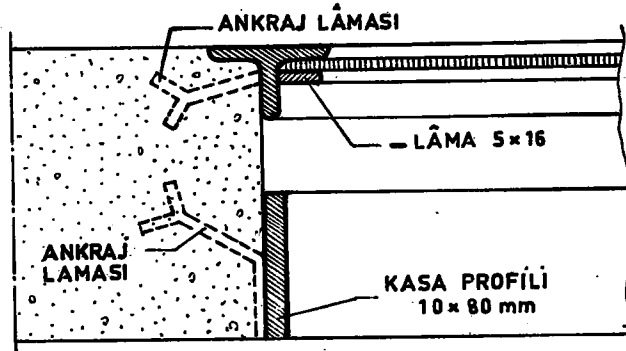
U DETAYI ÖLÇEK: 1/4



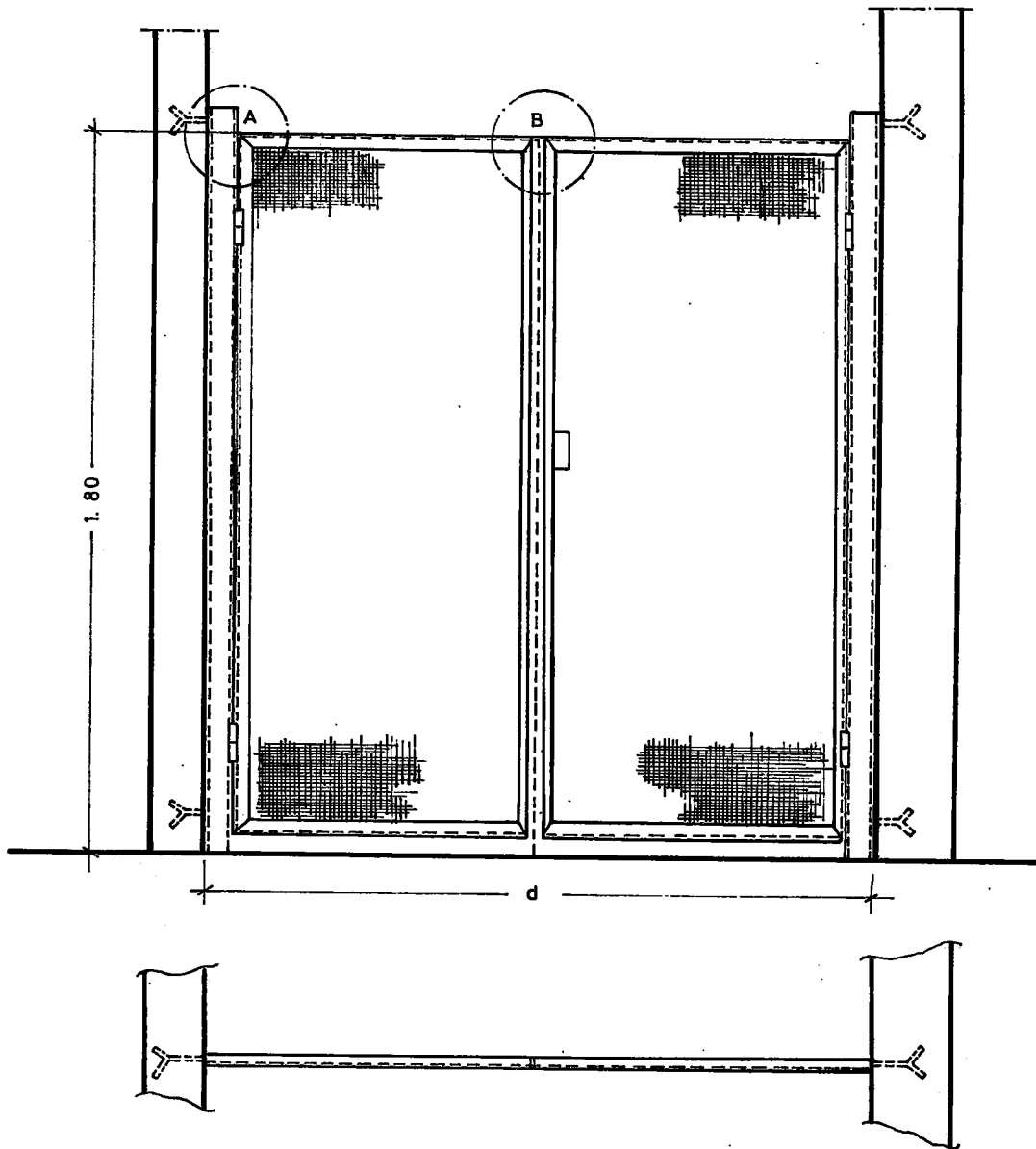
V DETAYI ÖLÇEK: 1/4



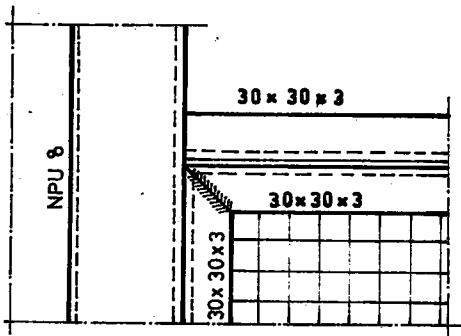
N DETAYI ÖLÇEK: 1/4



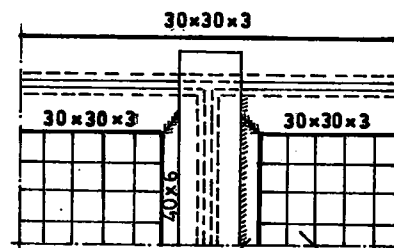
TRAF0 PANCUR PLÂNI VE DETAYLARI



- SEBEKE TRAFOLARINDA VE	30 KV LUK HÜCRELERDE	180 İLA 197
- "	"	15 KV LUK "
- ANA TRAFÖ MERKEZLERİ VE	30 KV LUK	"
- "	"	" 15 KV LUK "
		cm.
		cm.

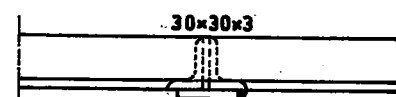
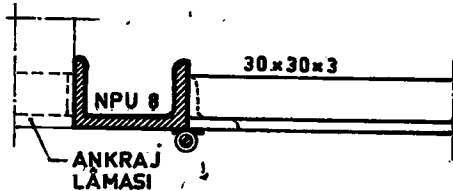


A DETAYI ÖLÇEK: 1/5



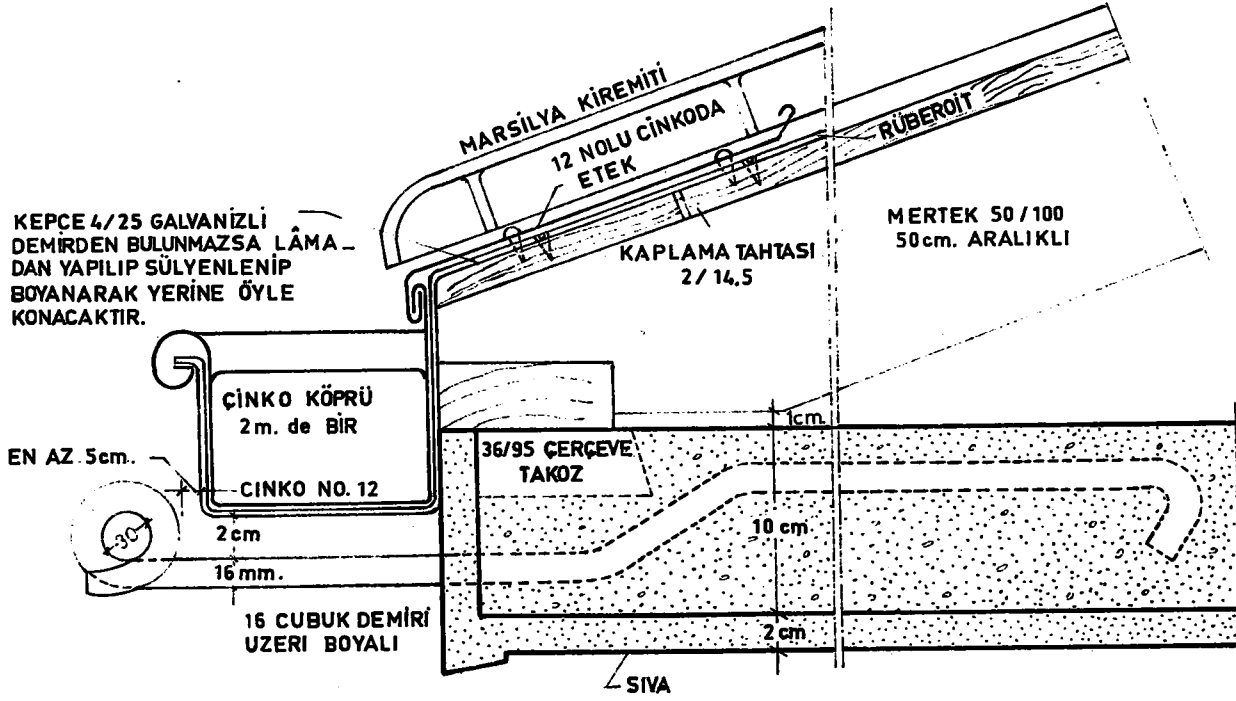
B DETAYI ÖLÇEK: 1/5

30 mm ARALIKLI  
3 mm. KALINLIĞINDA  
KAFES TELİ

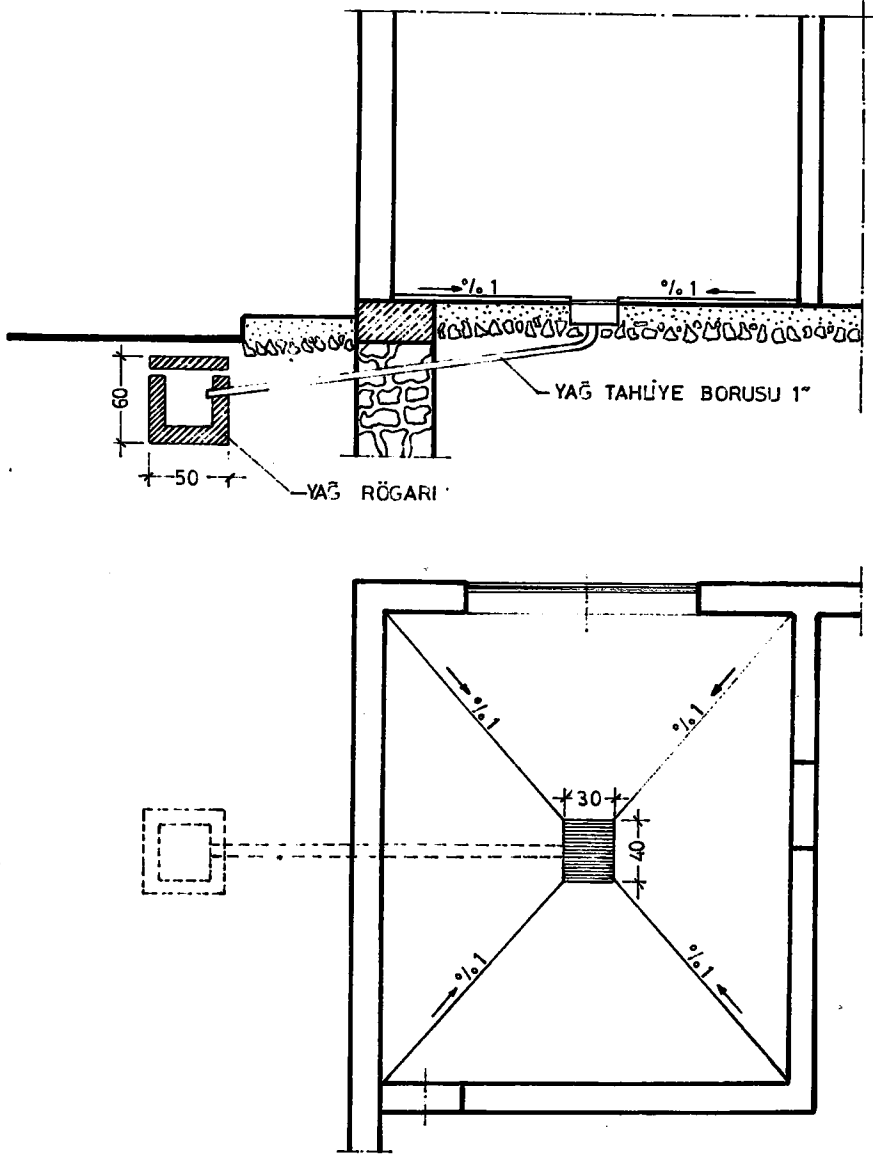


TEL KAFES KAPILAR VE DETAYLARI

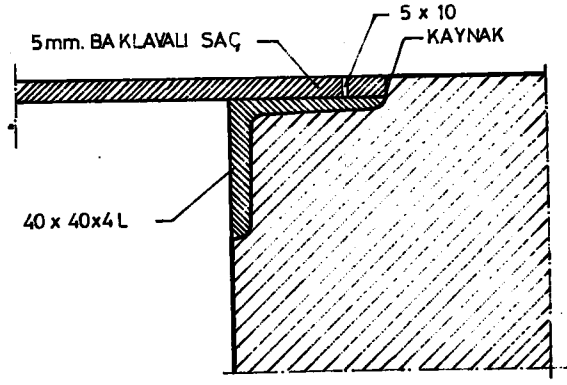
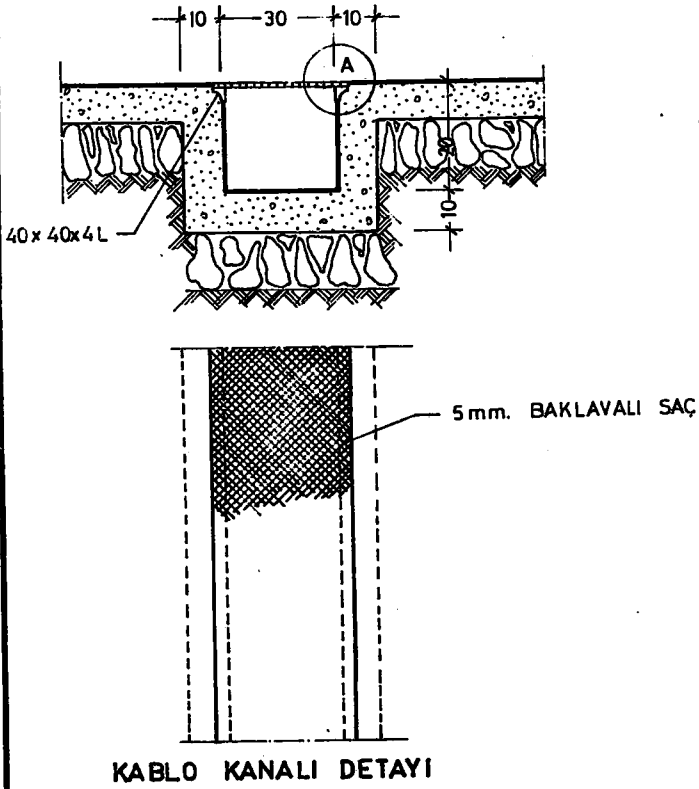
KEPÇE 4/25 GALVANİZLİ  
DEMİRDEN BULUNMAZSA LÂMA  
DAN YAPILIP SÜLYENLENİP  
BOYANARAK YERİNE ÖYLE  
KONACAKTIR.



ÇATI DETAYI  
ÖLÇEK: 1/4

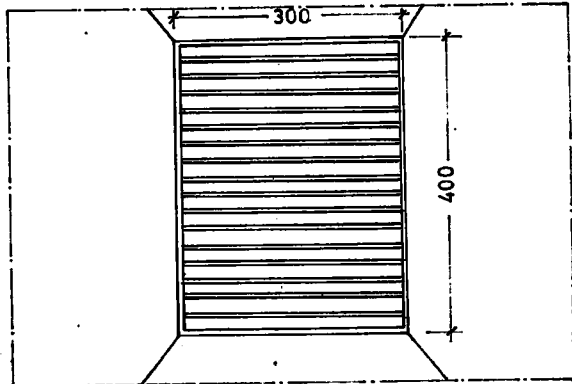
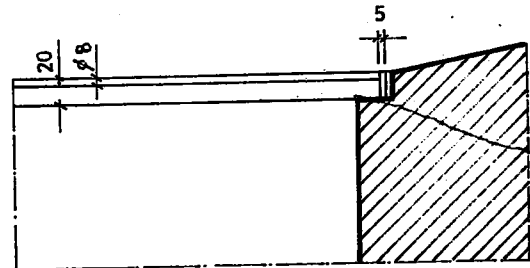
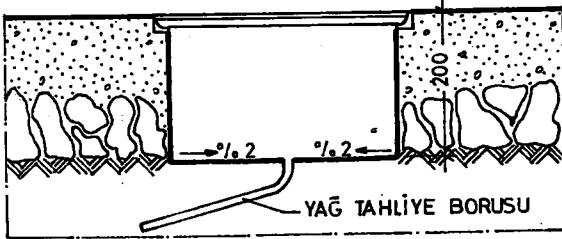


TRAFÖ YAG ÇUKURU DETAYI  
ÖLÇEK: 1/50

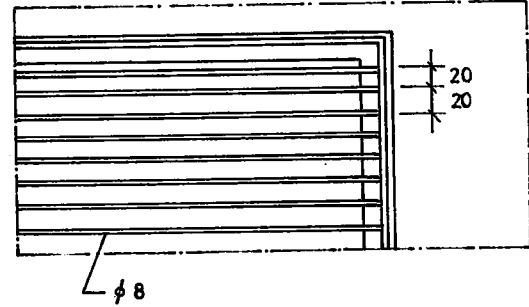


A DETAYI ÖLÇEK: 1/2,5

KABLO KANALI DETAYI



YAĞ ÇUKURU DETAYI ÖLÇEK: 1/10



IZGARA DETAYI ÖLÇEK: 1/5

YAĞ ÇUKURU DETAYI