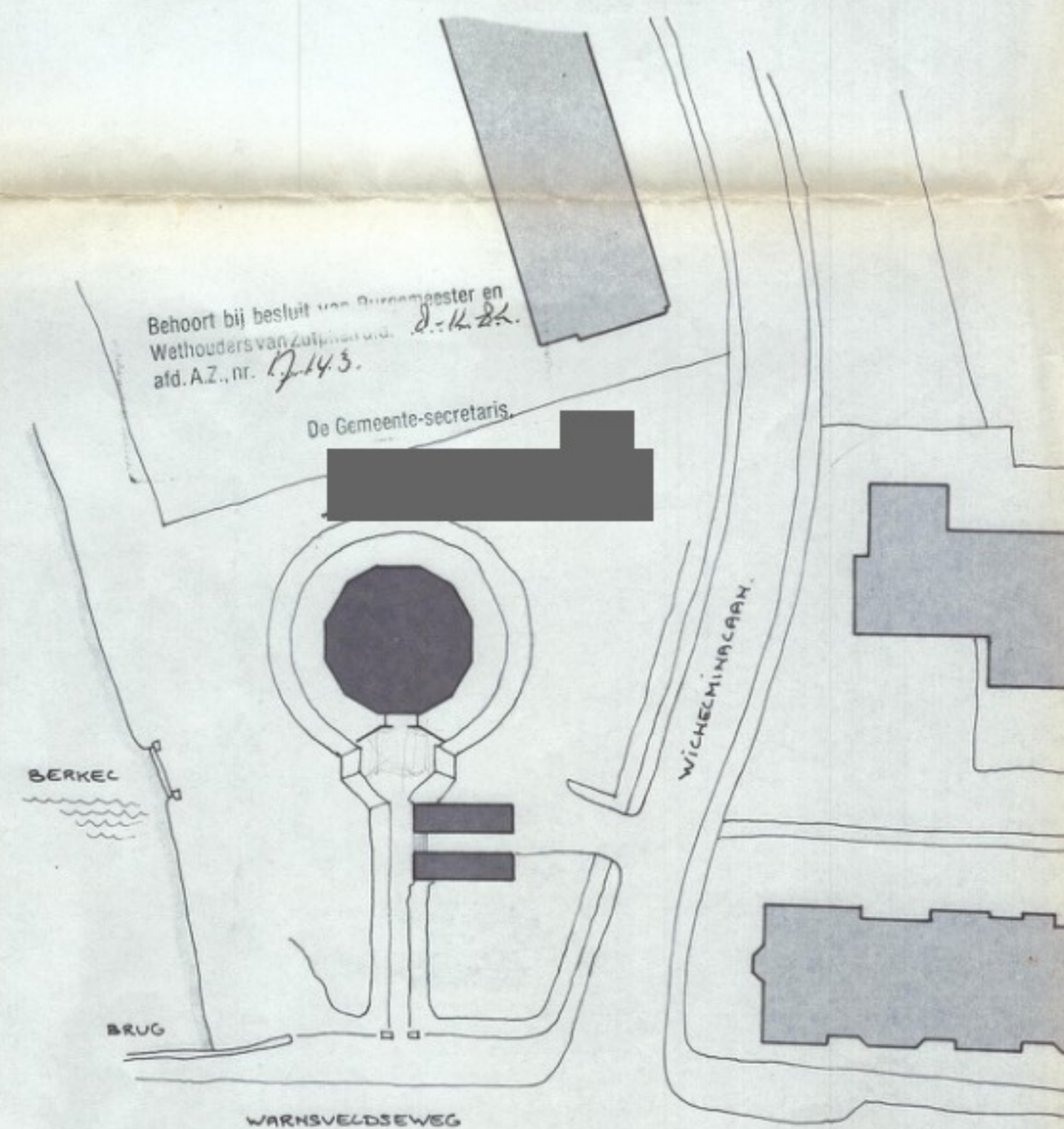
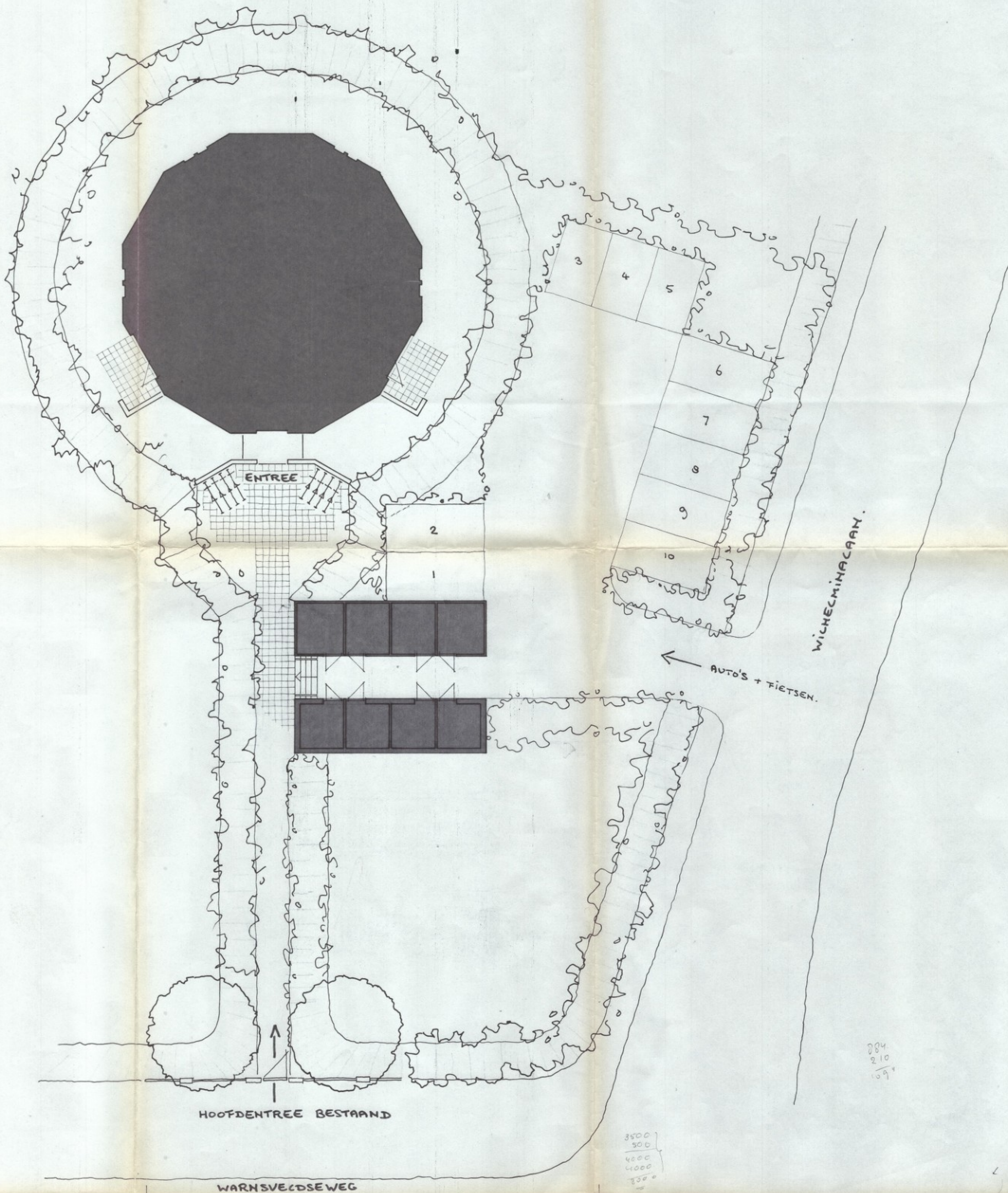




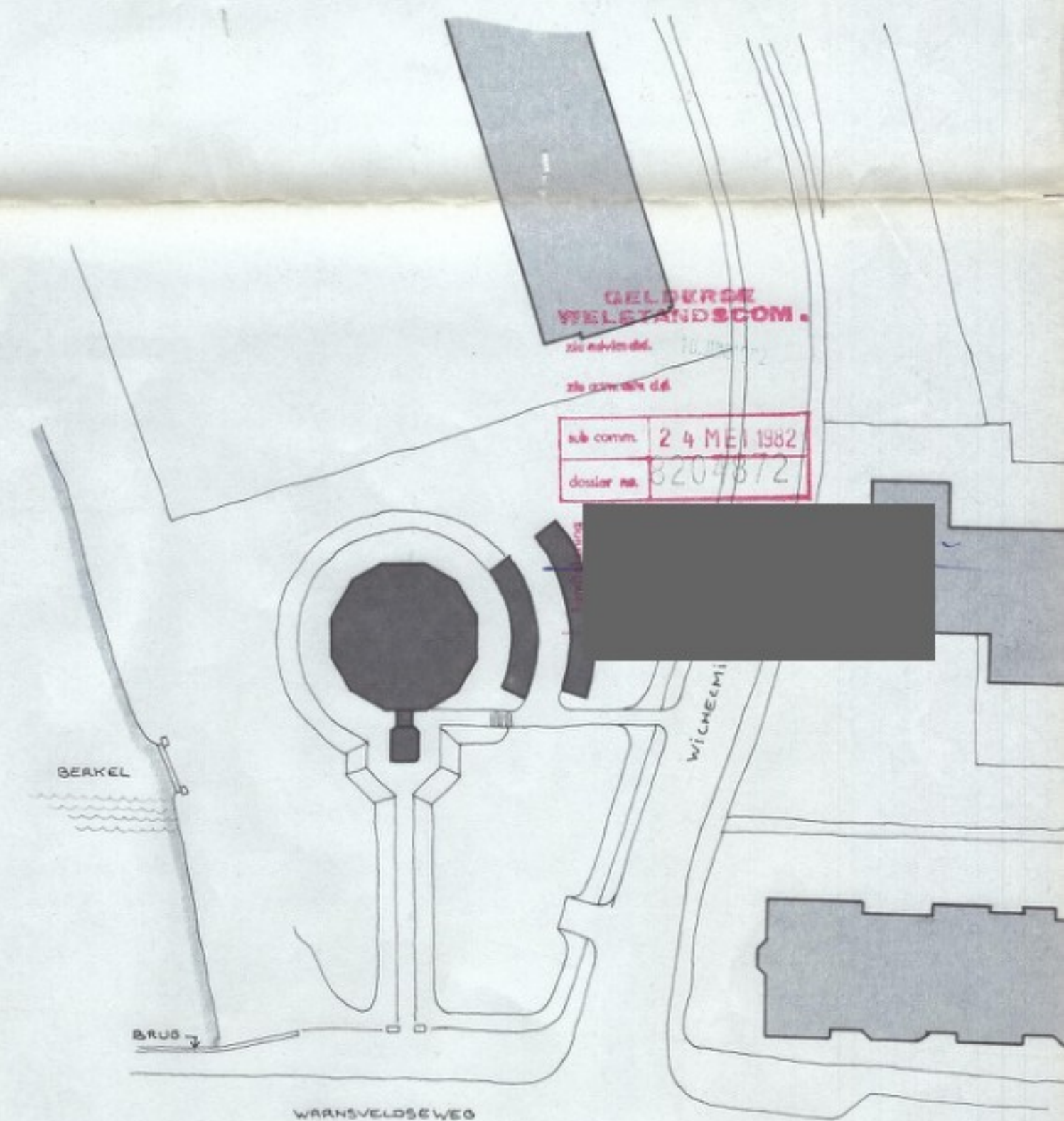
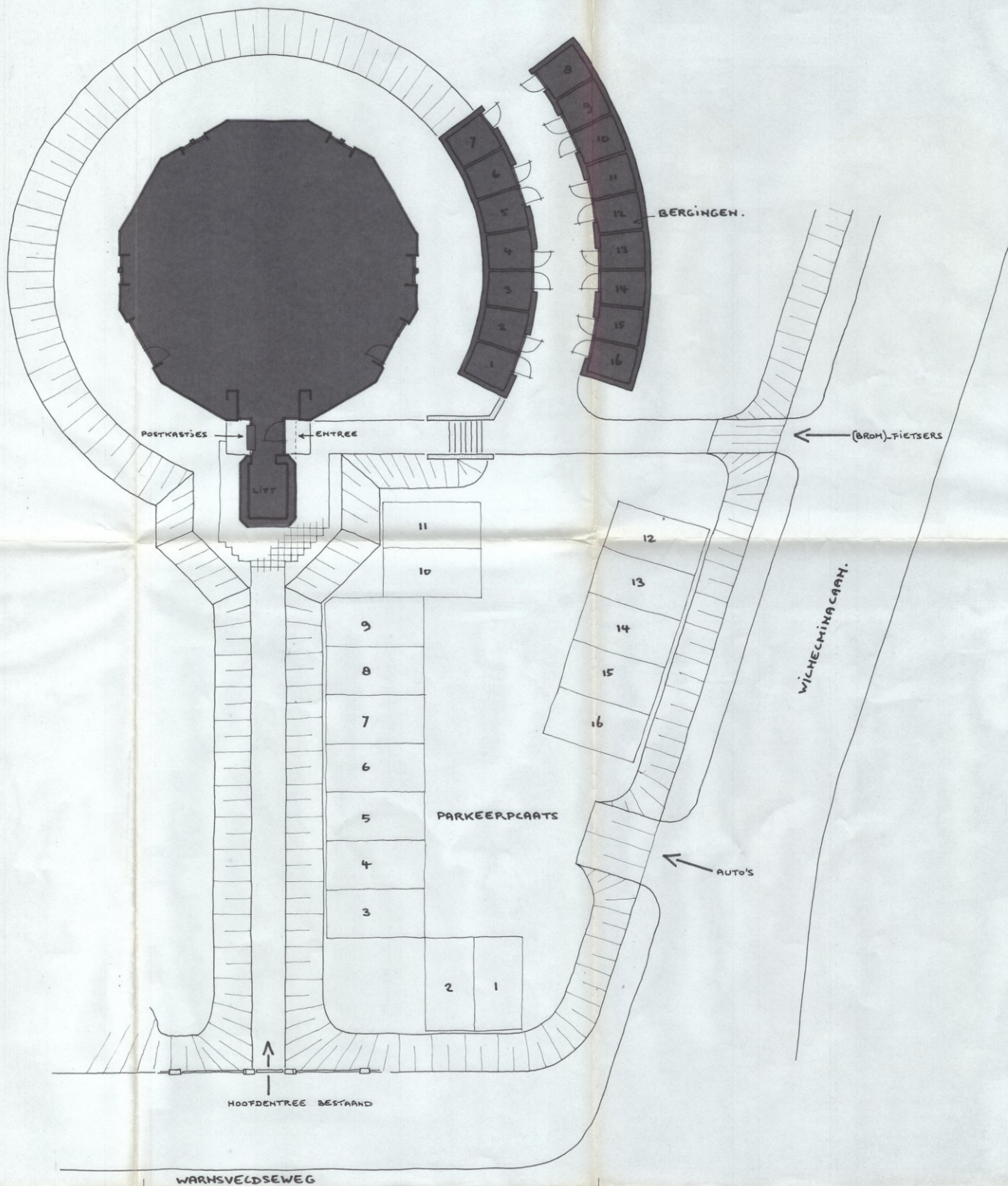
OPENBARE WERKEN
ZUTPHEN
afd. bouw- en
woningtoezicht



SITUATIE : 1:500.
SEKTE : B 3870
B 3998 GED.
GEMEENTE ZUTPHEN.

PROJEKT	8 2 PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN
ONDERWERP	SITUATIE BERGINGEN - PARKEREN - ENTREE
ONTWERP	GÉKE DE WILDE ARCHITEKT PETER BLOMJOUS ARCHITEKT AVB SIDNEYSTRAAT 68, 7203 HC ZUTPHEN 05750 18146

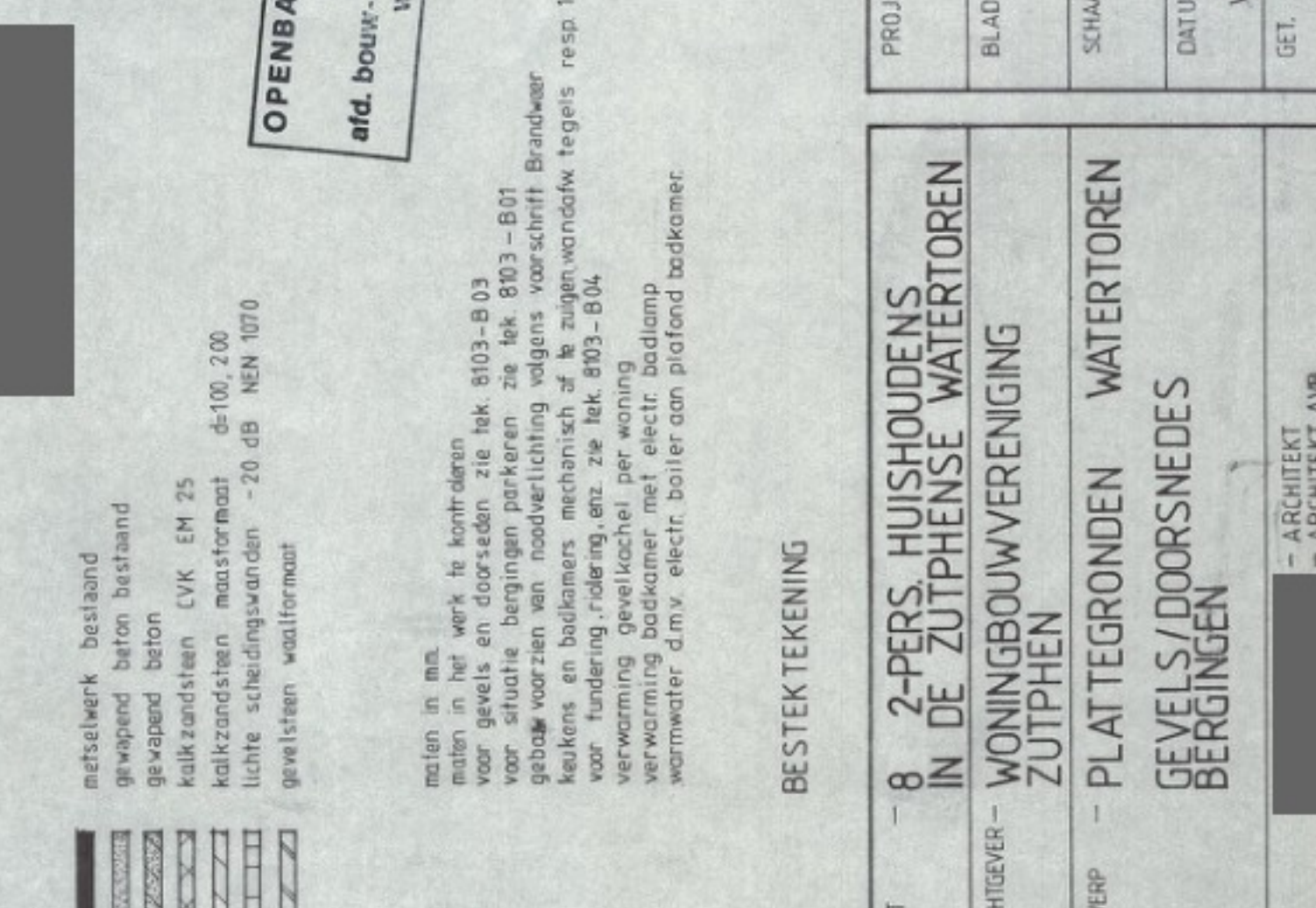
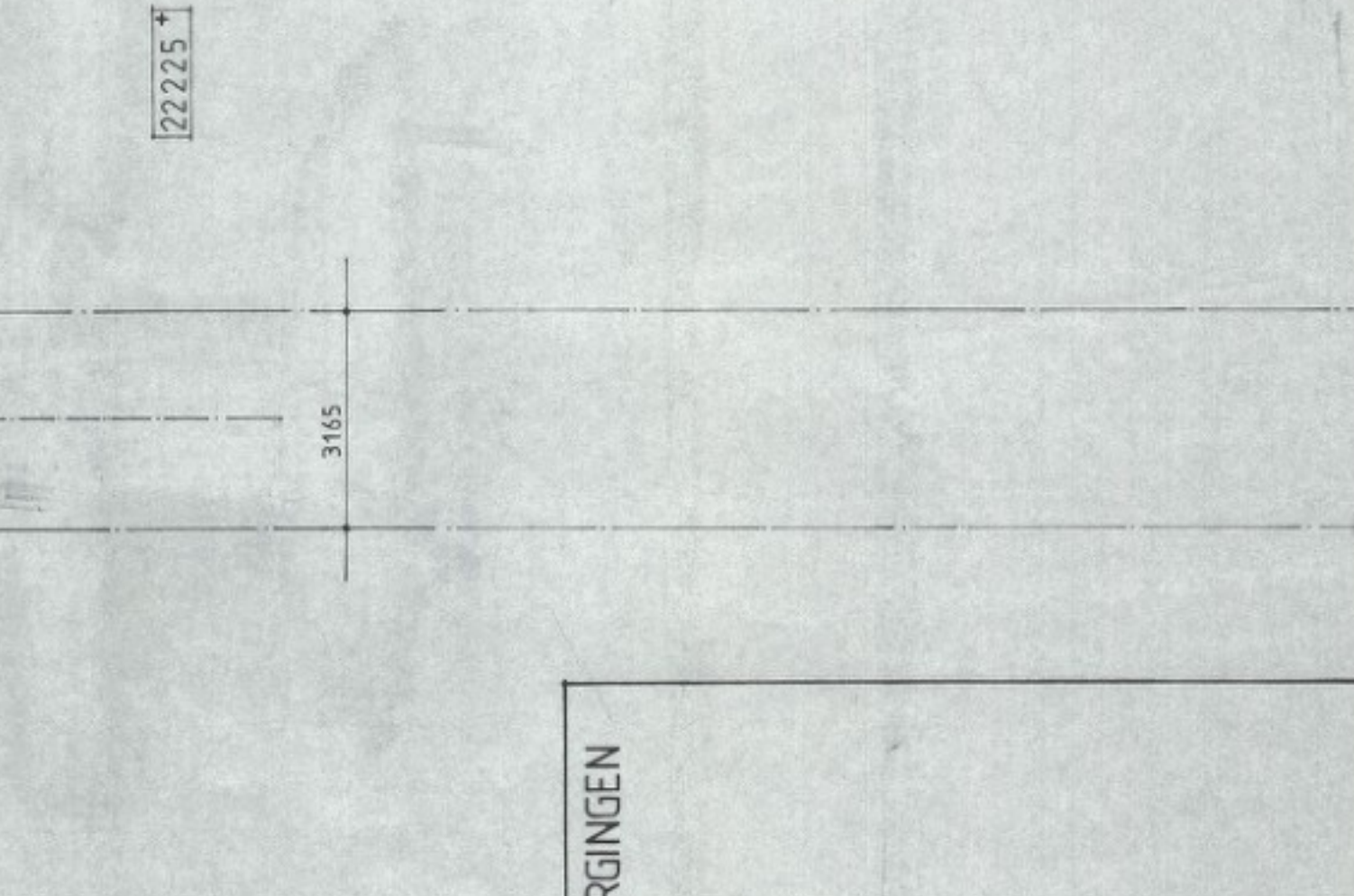
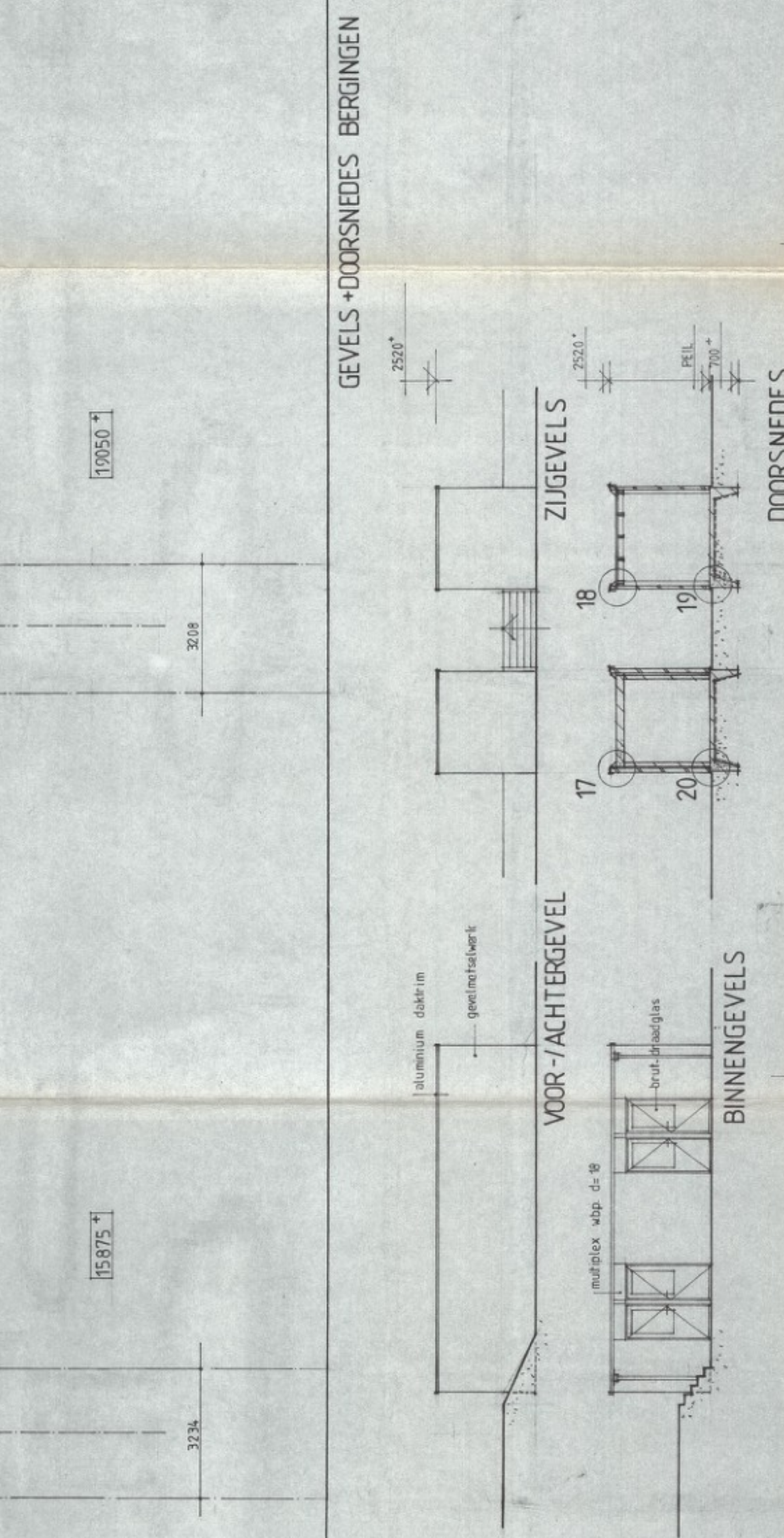
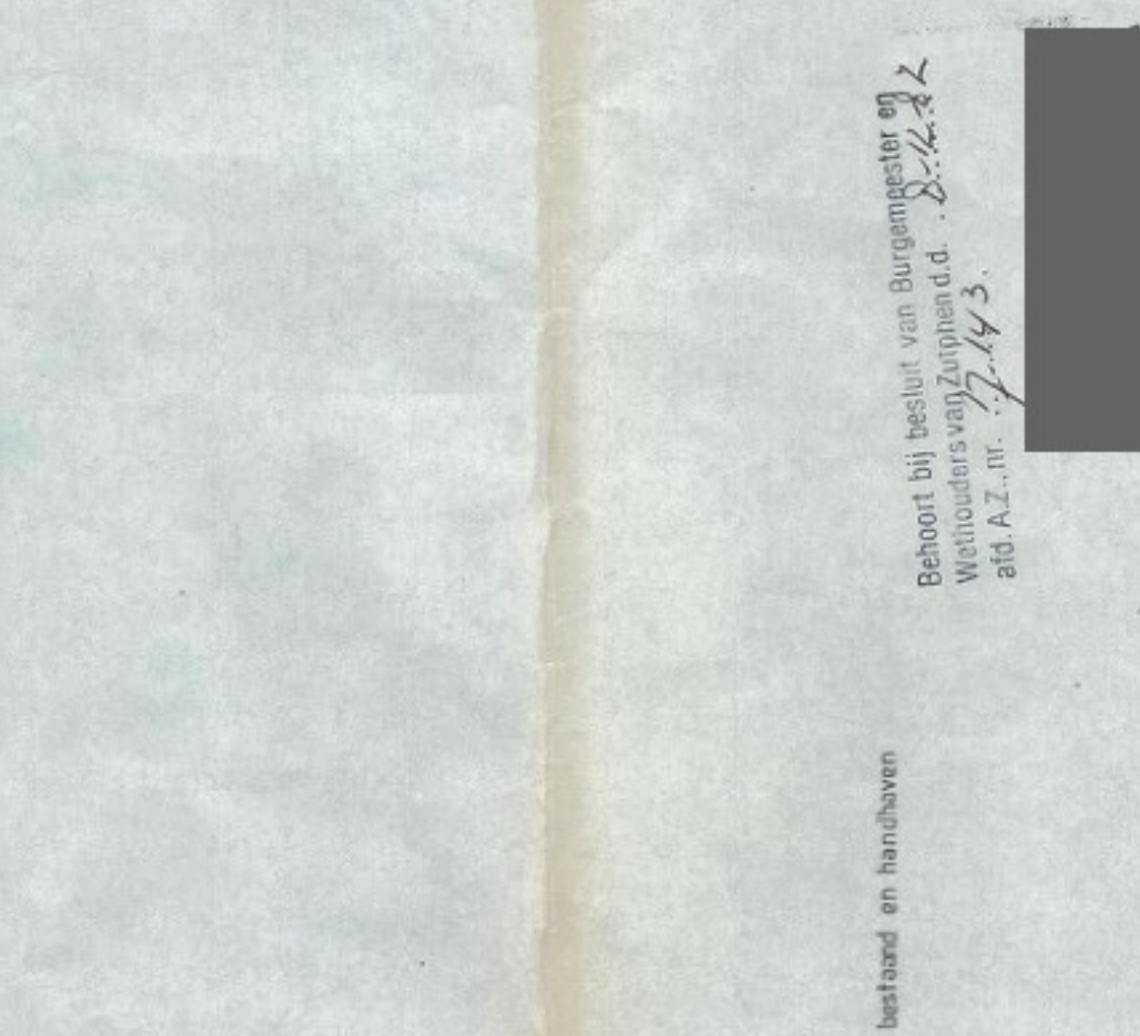
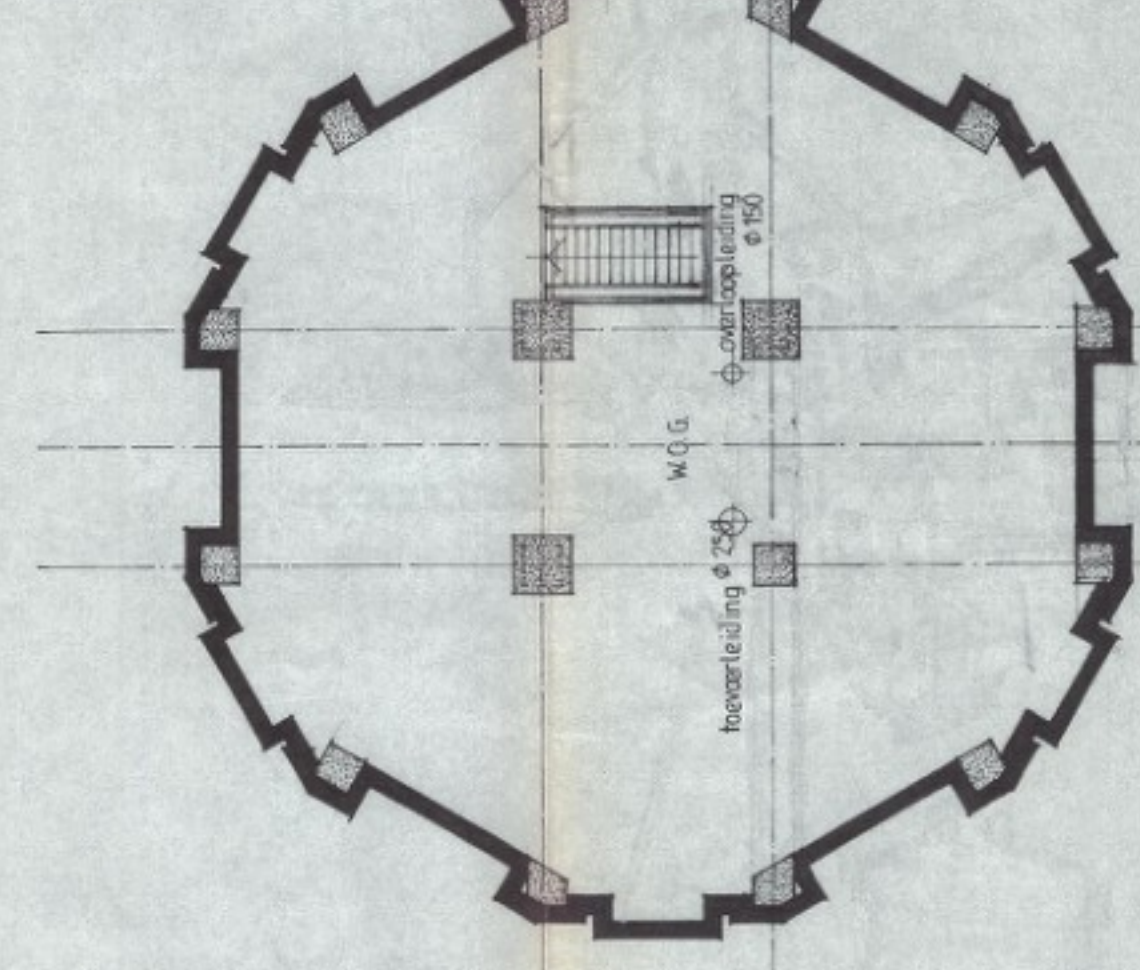
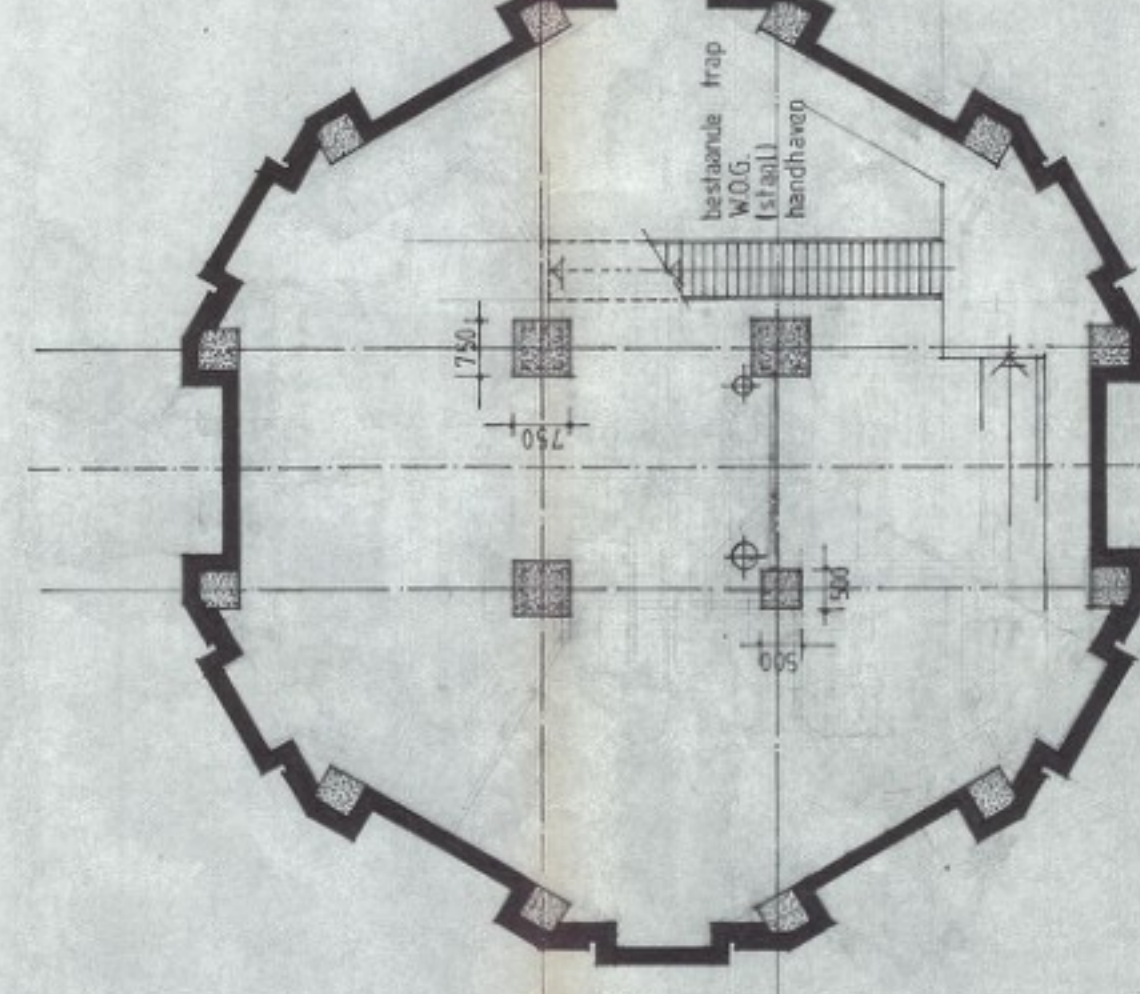
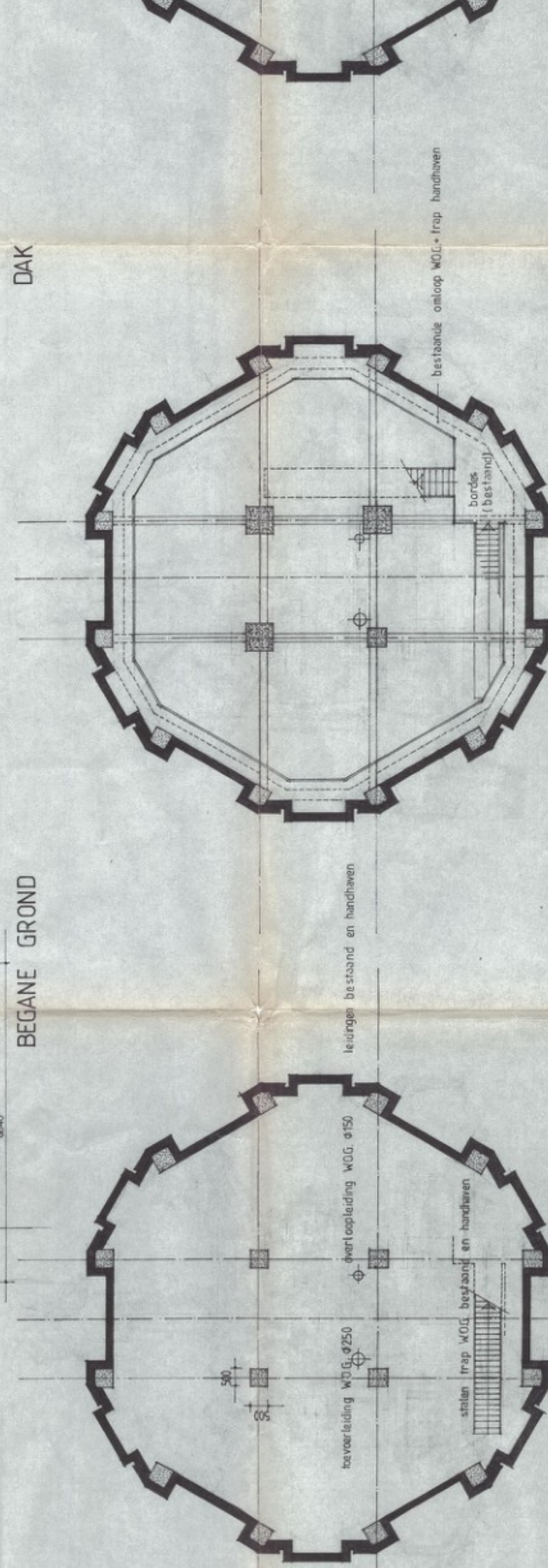
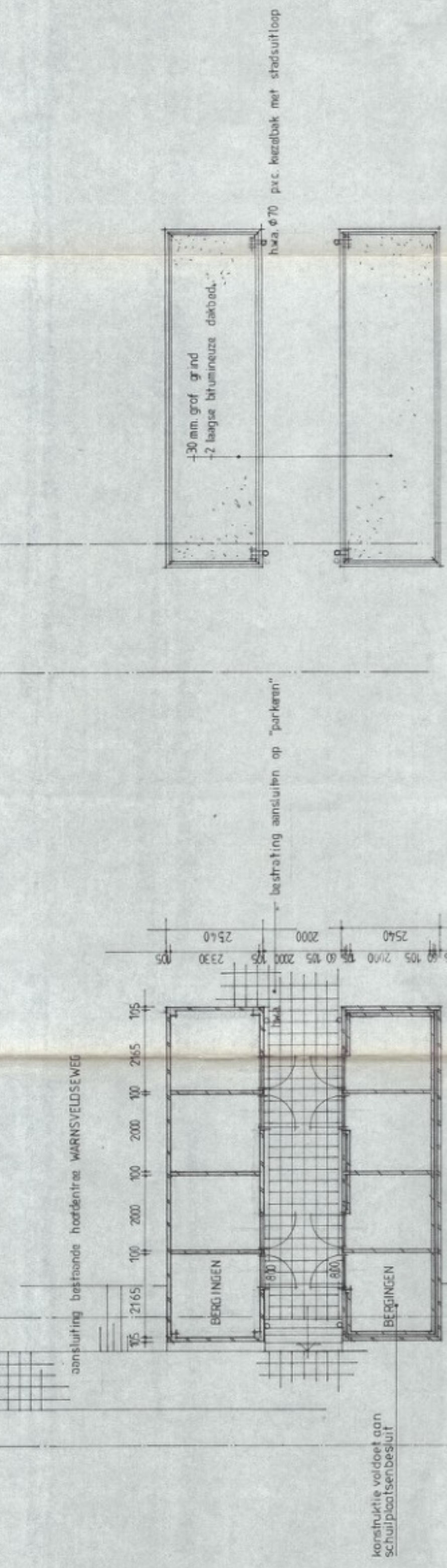
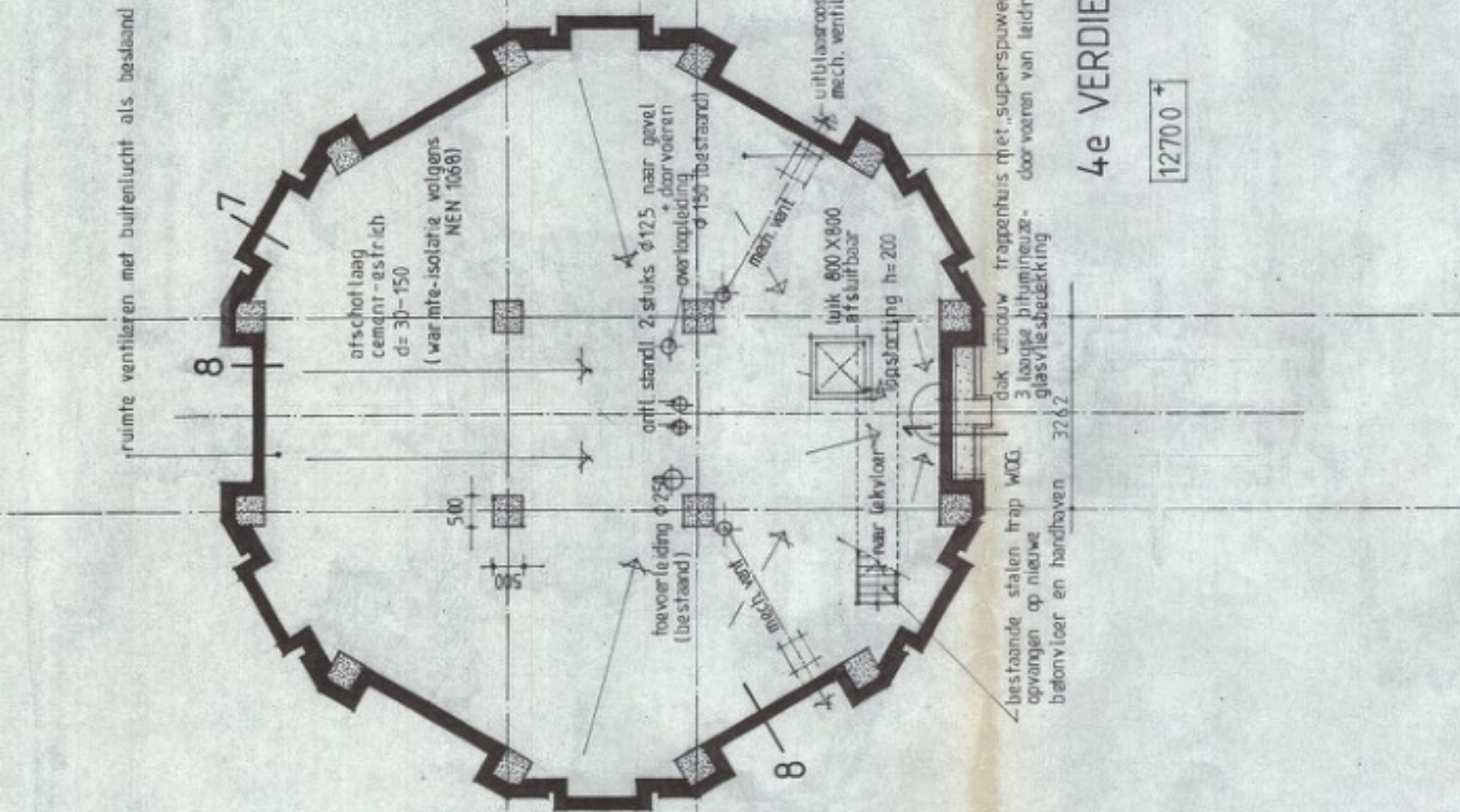
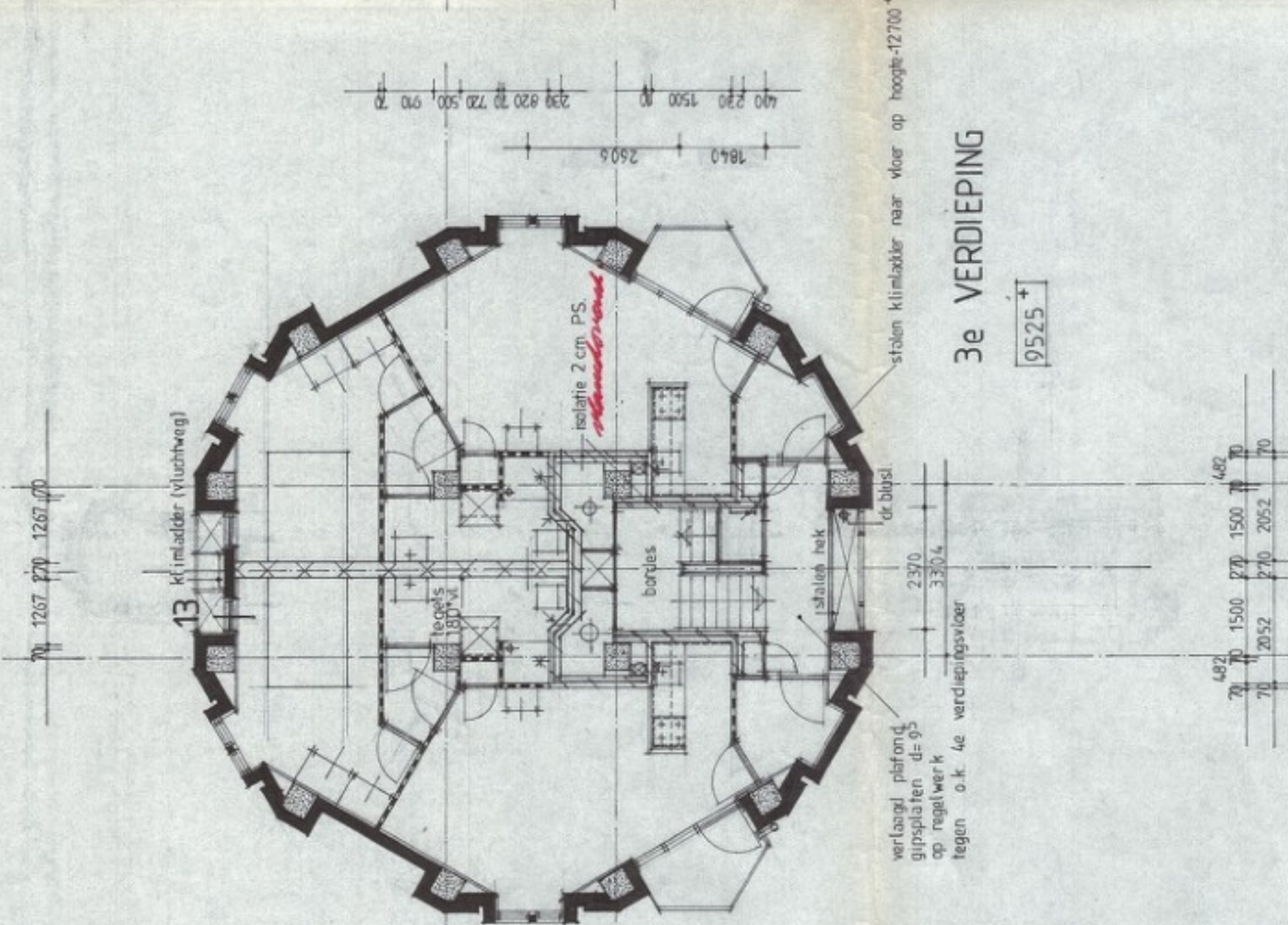
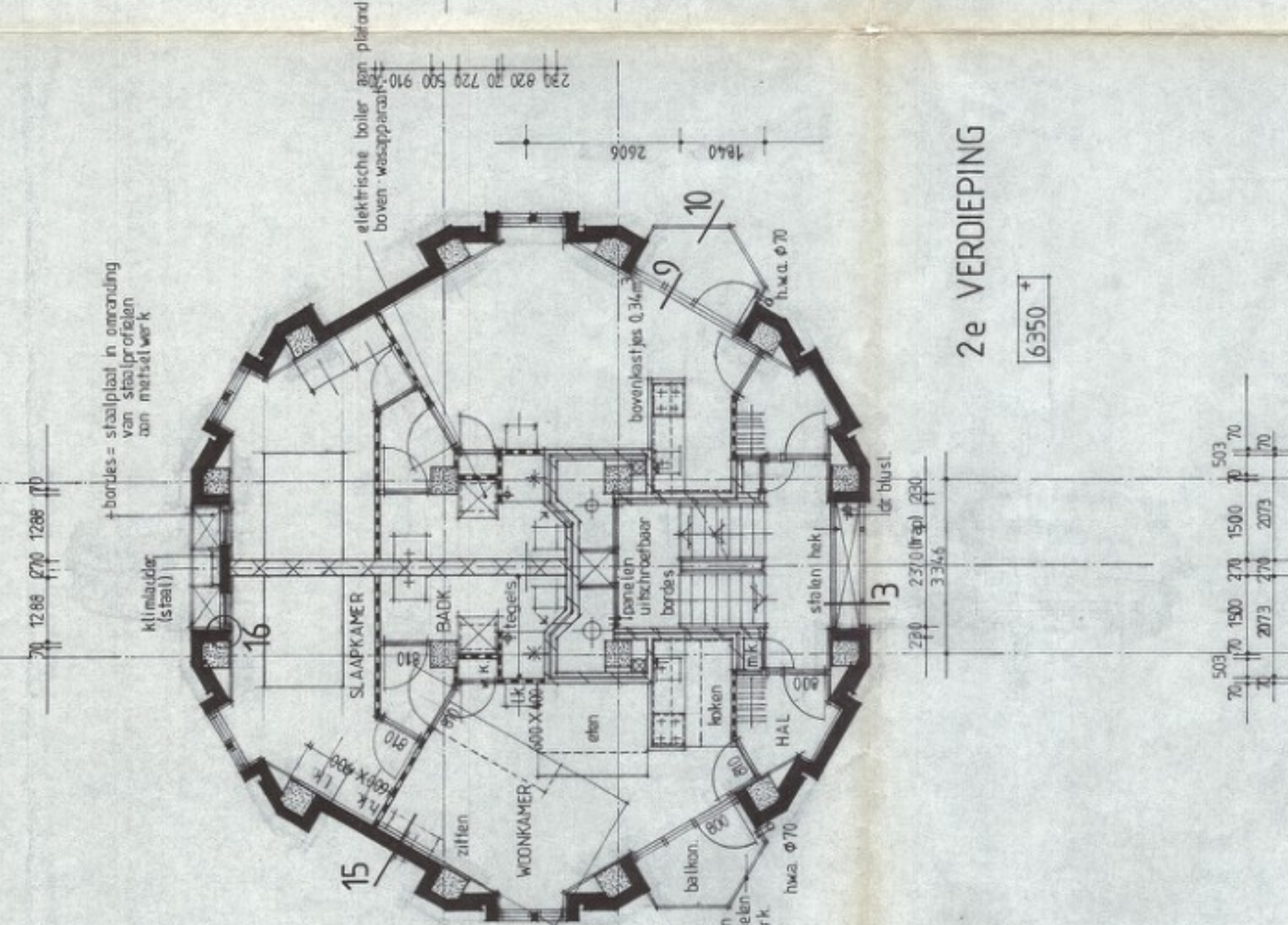
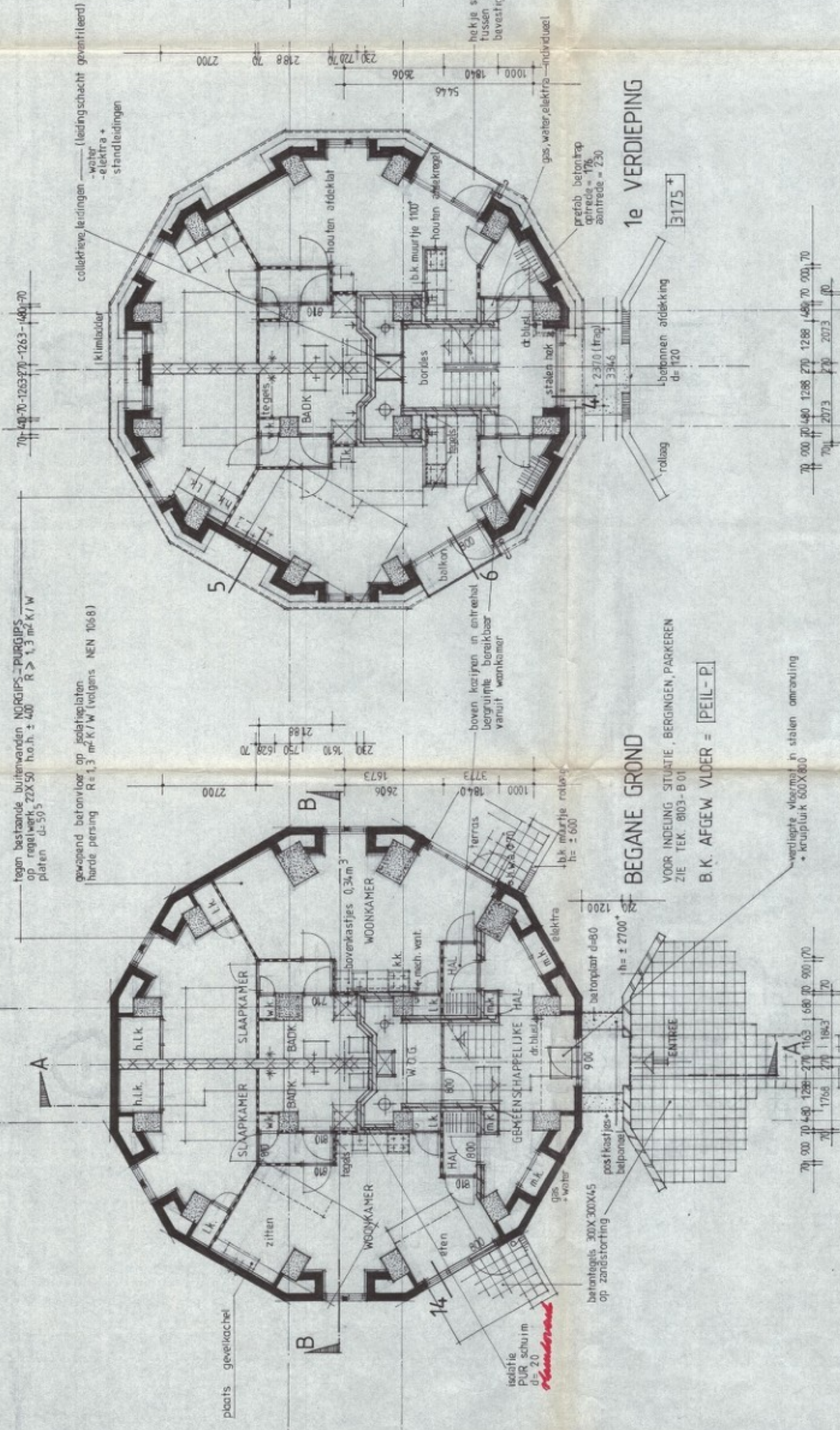
PROJEKT NO	8103
BLAD NO	B.01
SCHAAL	1:500 1:100
DATUM	23_6_1982 16_11_1982
GET.	



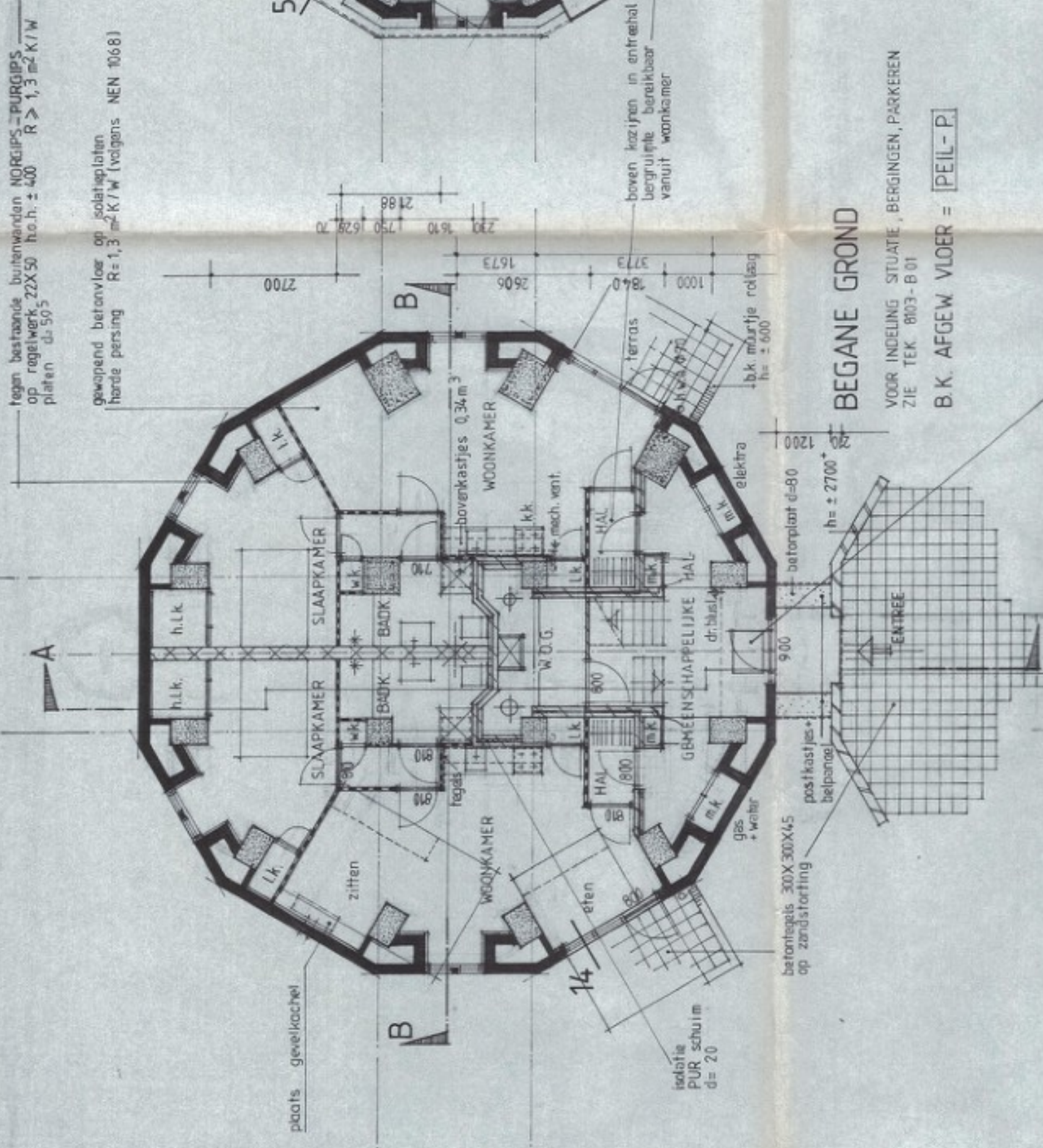
SITUATIE 1:500
SEKTIE B 2870
B 3098 GED.
GEMEENTE ZUTPHEN.

PROJEKT	16 2 PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN
ONDERWERP	SITUATIE BERGINGEN - PARKEREN - ENTREE
GÉKE DE WILDE ARCHITEKT PETER BLOMJOUS ARCHITEKT AvB SIDNEYSTRAAT 68 7203 HC ZUTPHEN 05750-18146	

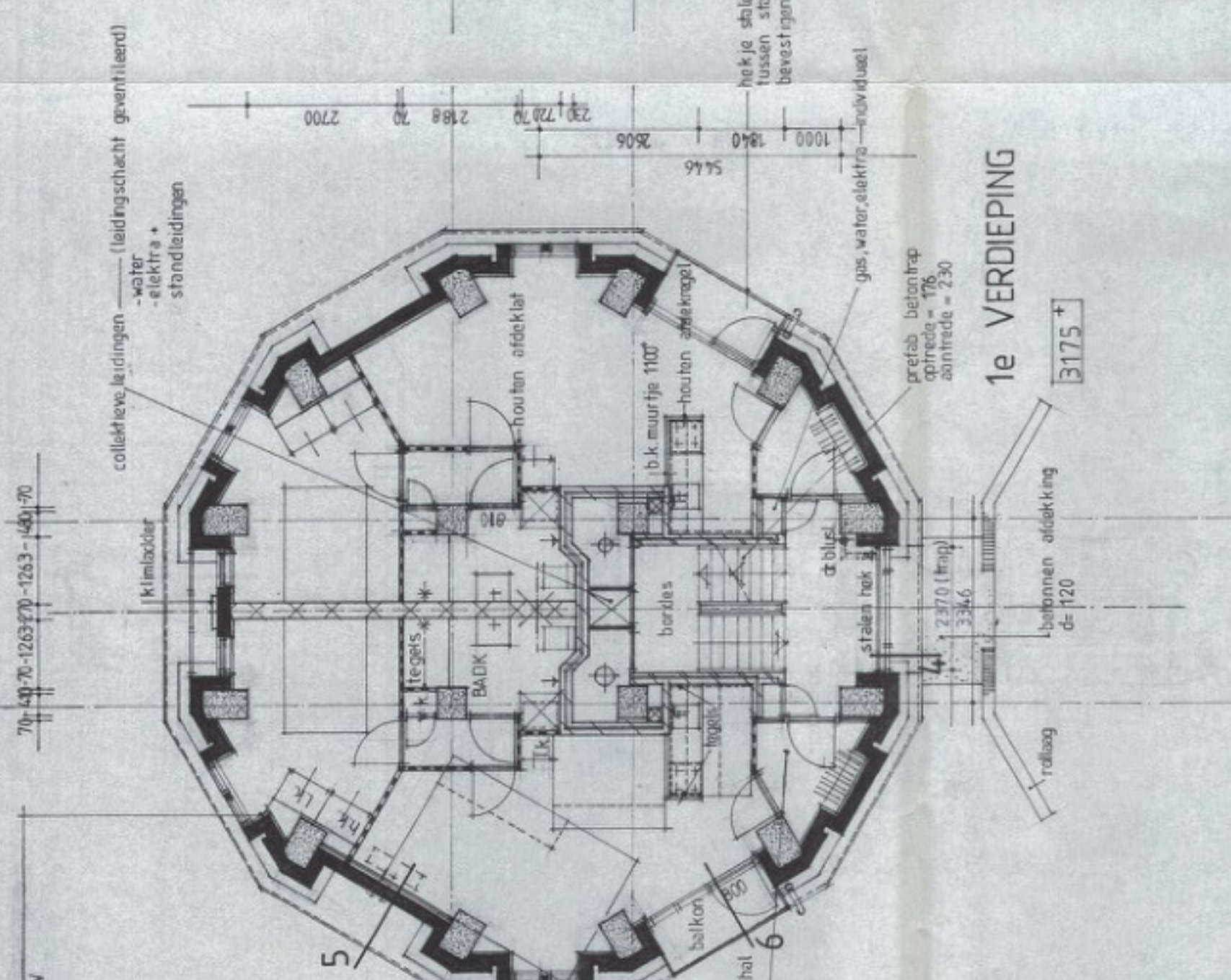
PROJEKT NO	8103
BLAD NO	B.01
SCHAAL	1:500 1:100
DATUM	14_5_1982
GET.	



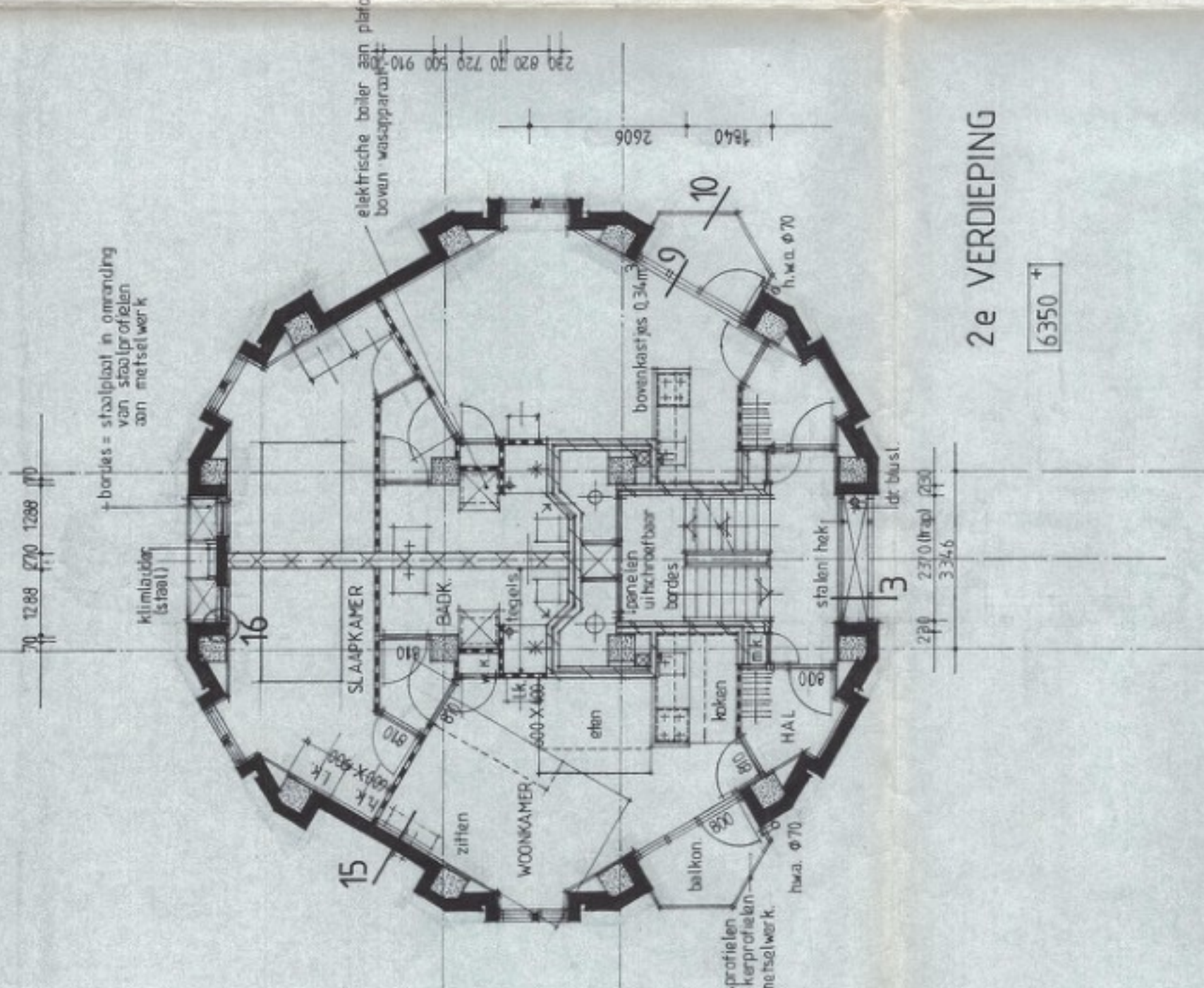
PROJECT	- 8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVERENIGING ZUTPHEN	
ONDERWERP	- PLATTEGRONDEN	WATERTOREN GEVELS / DOORSNEDES BEREKENINGEN
PROJECT NO.	- 8103	
BLAD NO.	- B-02	
SCHAAL	- 1:100	
DATUM	-23.6-1982	
WIJZ.	9.7.1982	
GET.		
		05750-18146



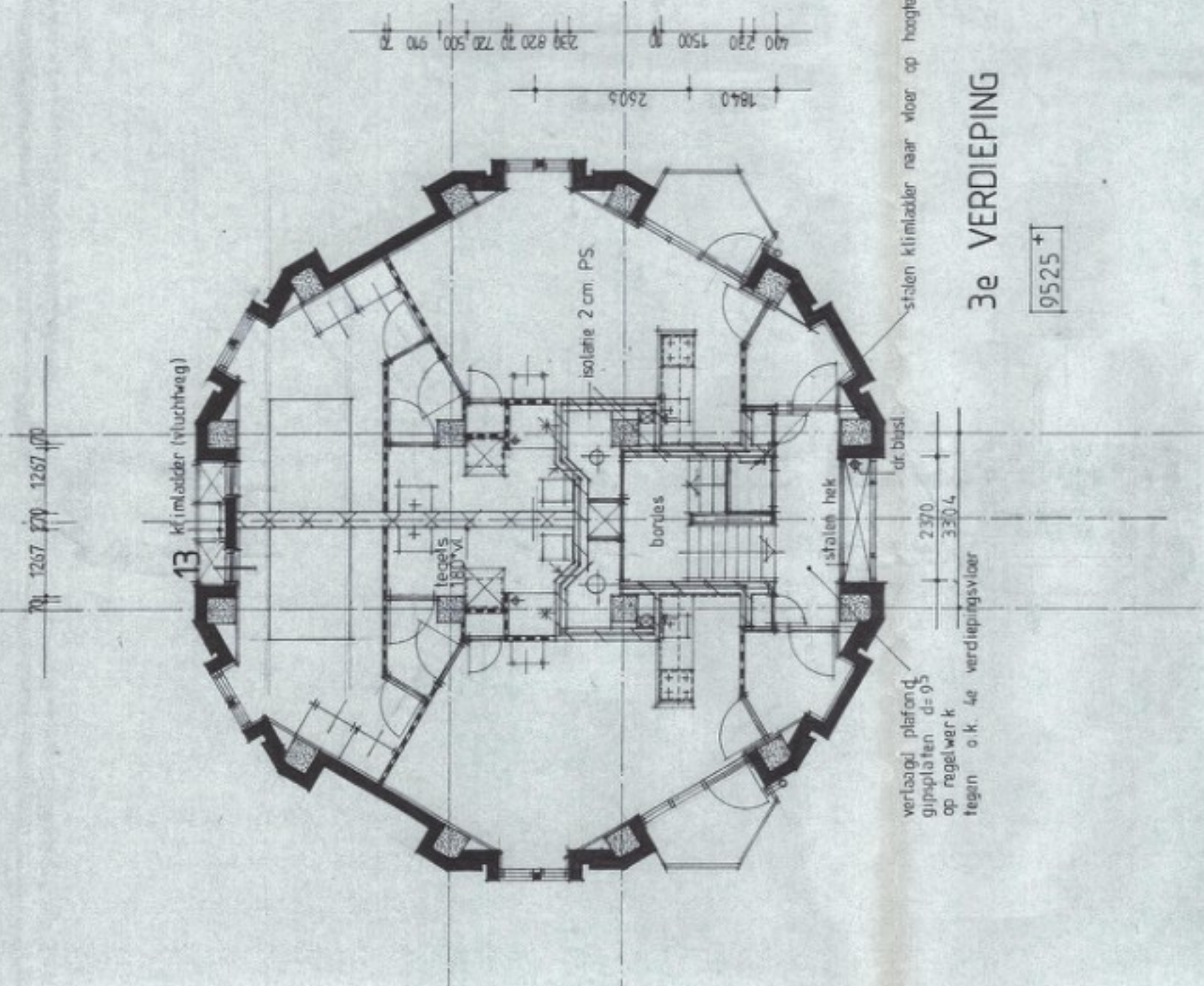
BEGANE GROND
VOOR INGELENE SITUATIE, BEGINGEN PARKSEEN
B.K. AFGEW. VOER = PEIL=P.I.



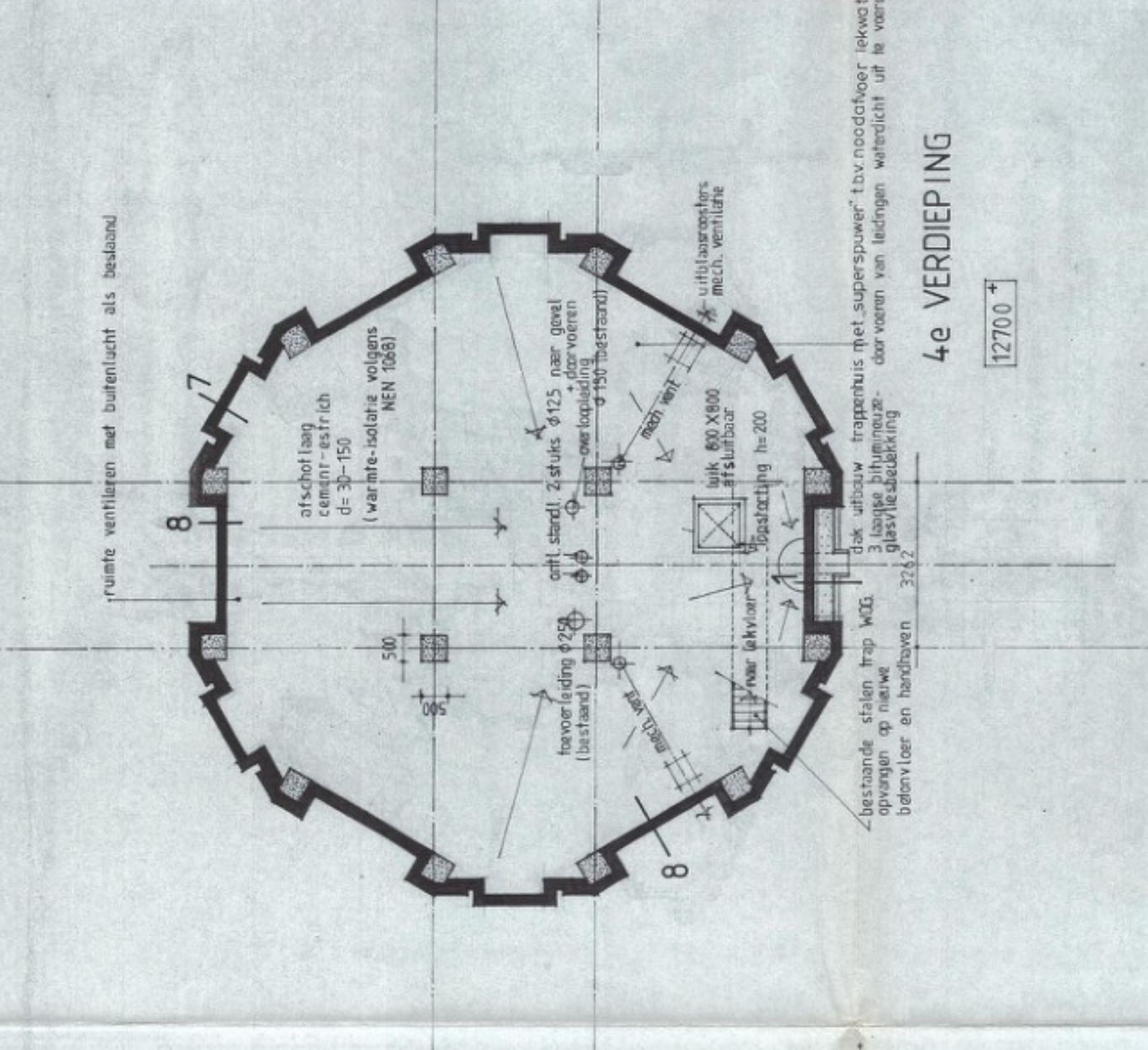
1e VERDIEPING
3175



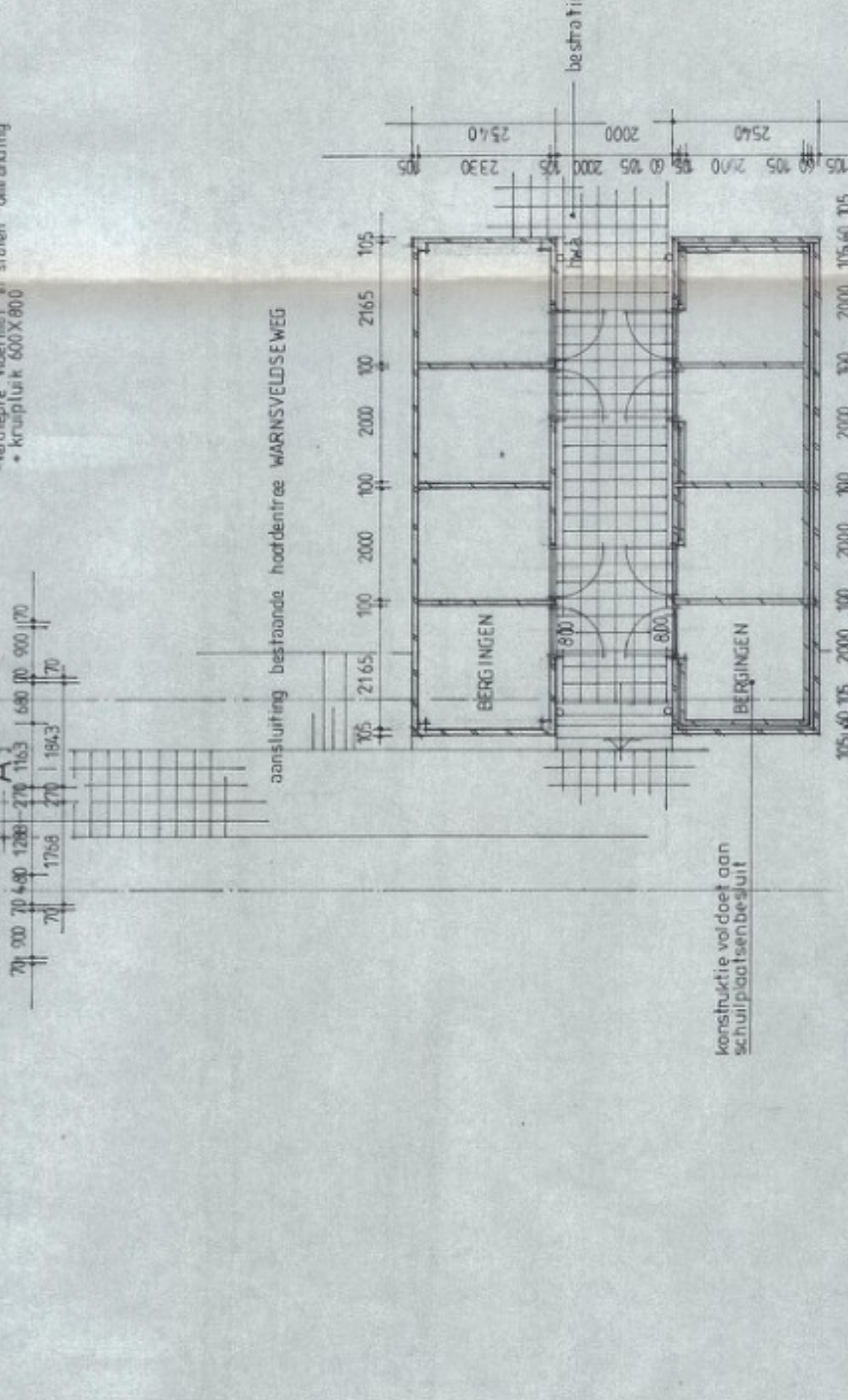
2e VERDIEPING
3350



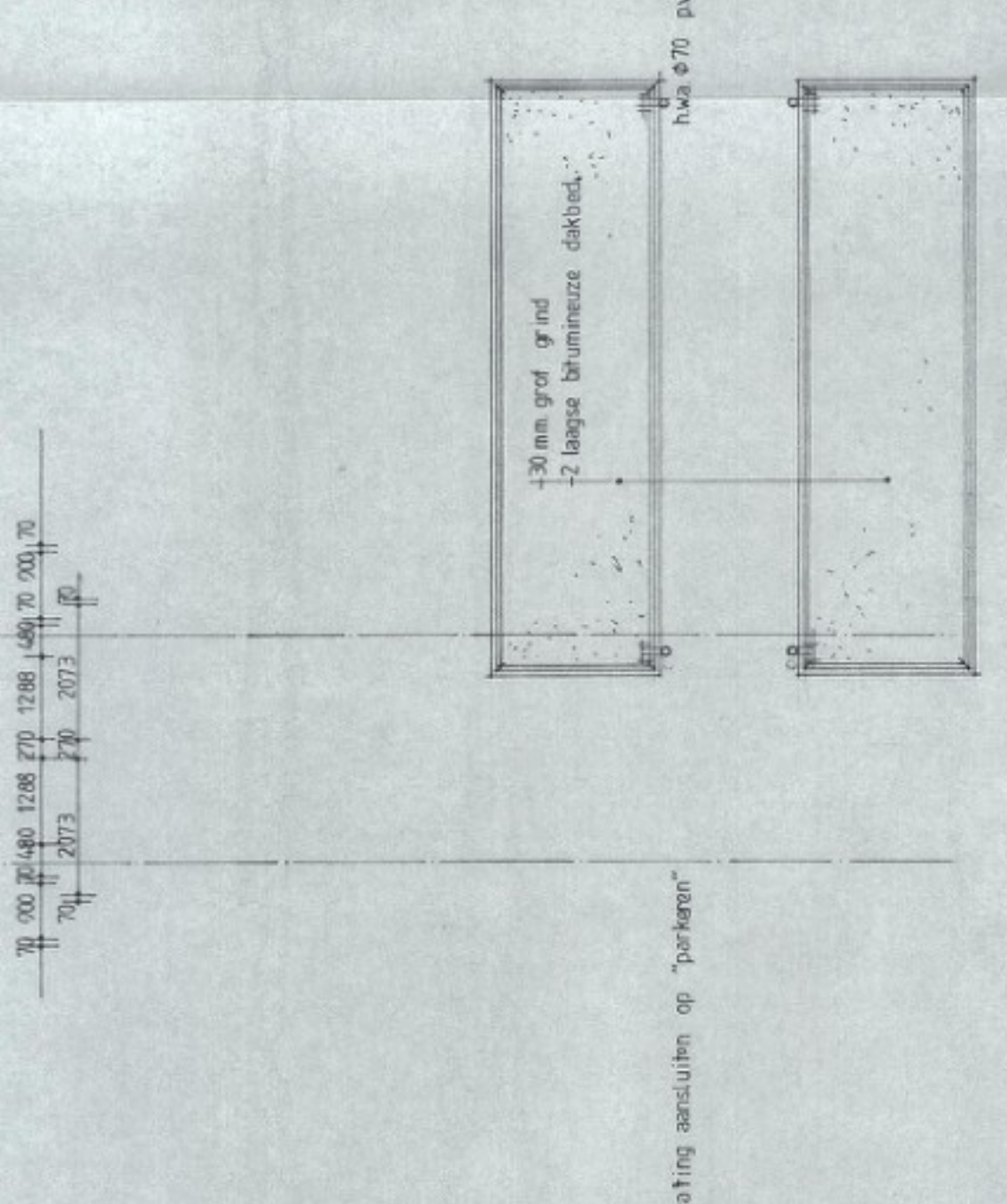
3e VERDIEPING
3525



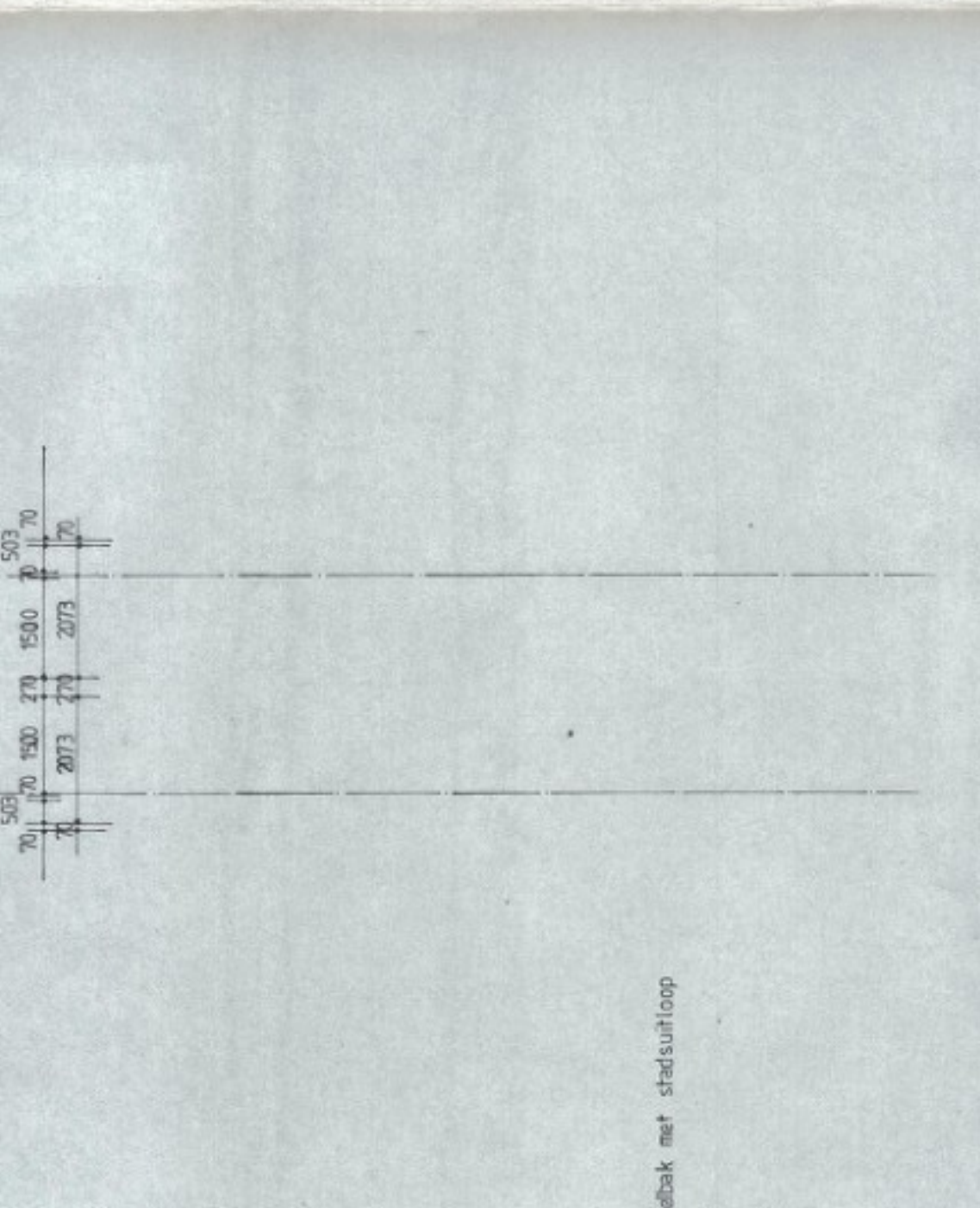
4e VERDIEPING
3700



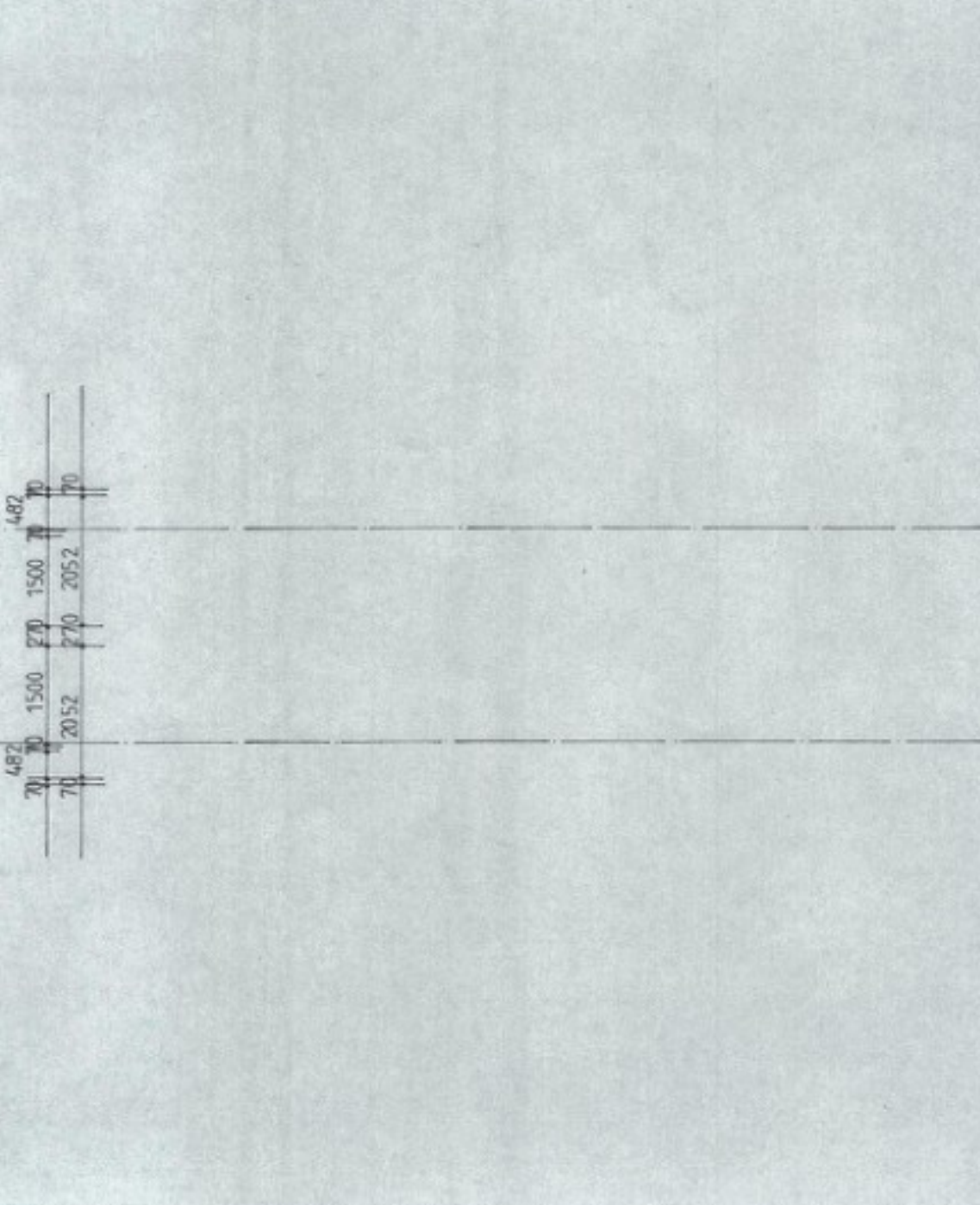
BEGANE GROND



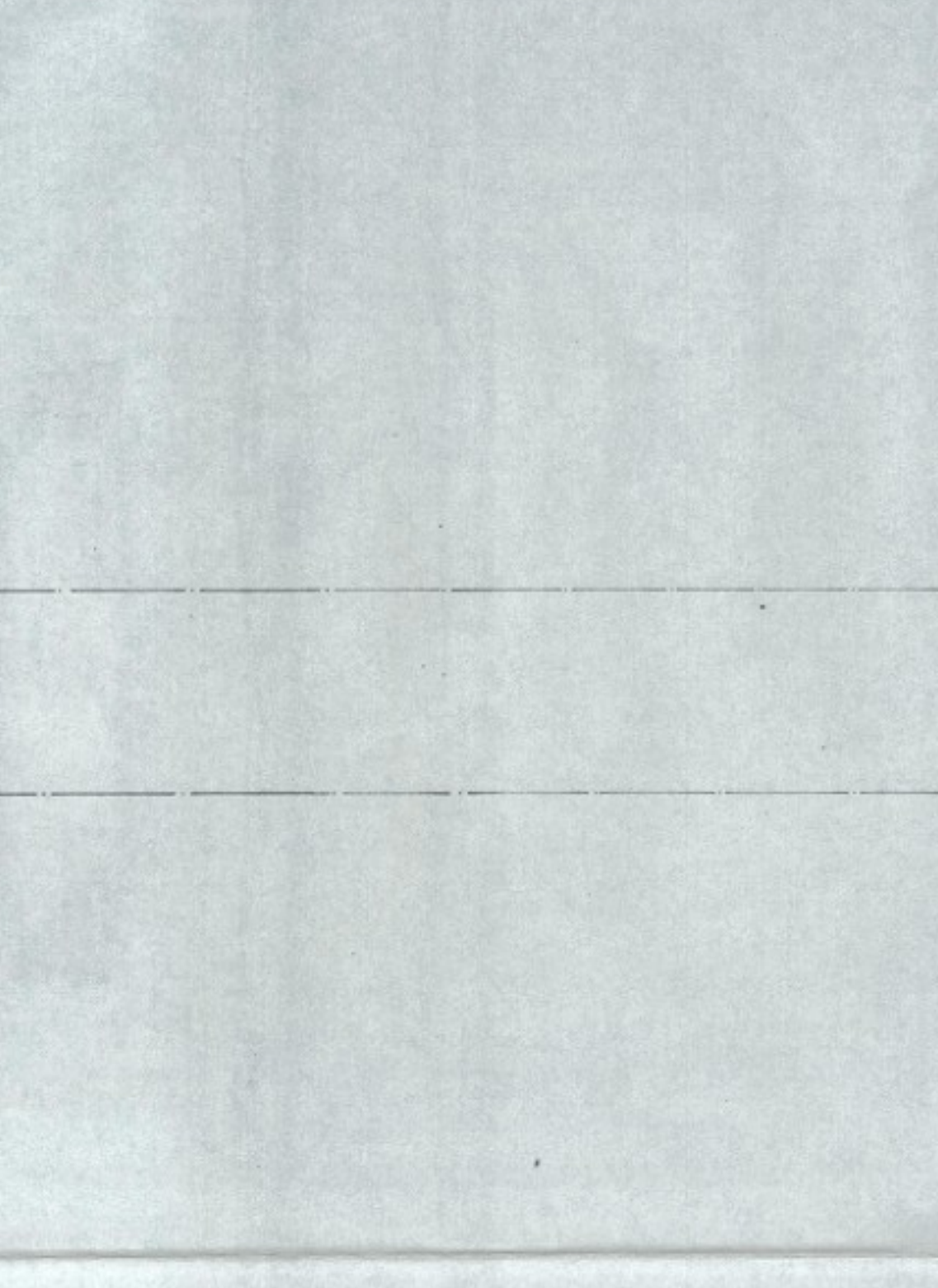
1e VERDIEPING



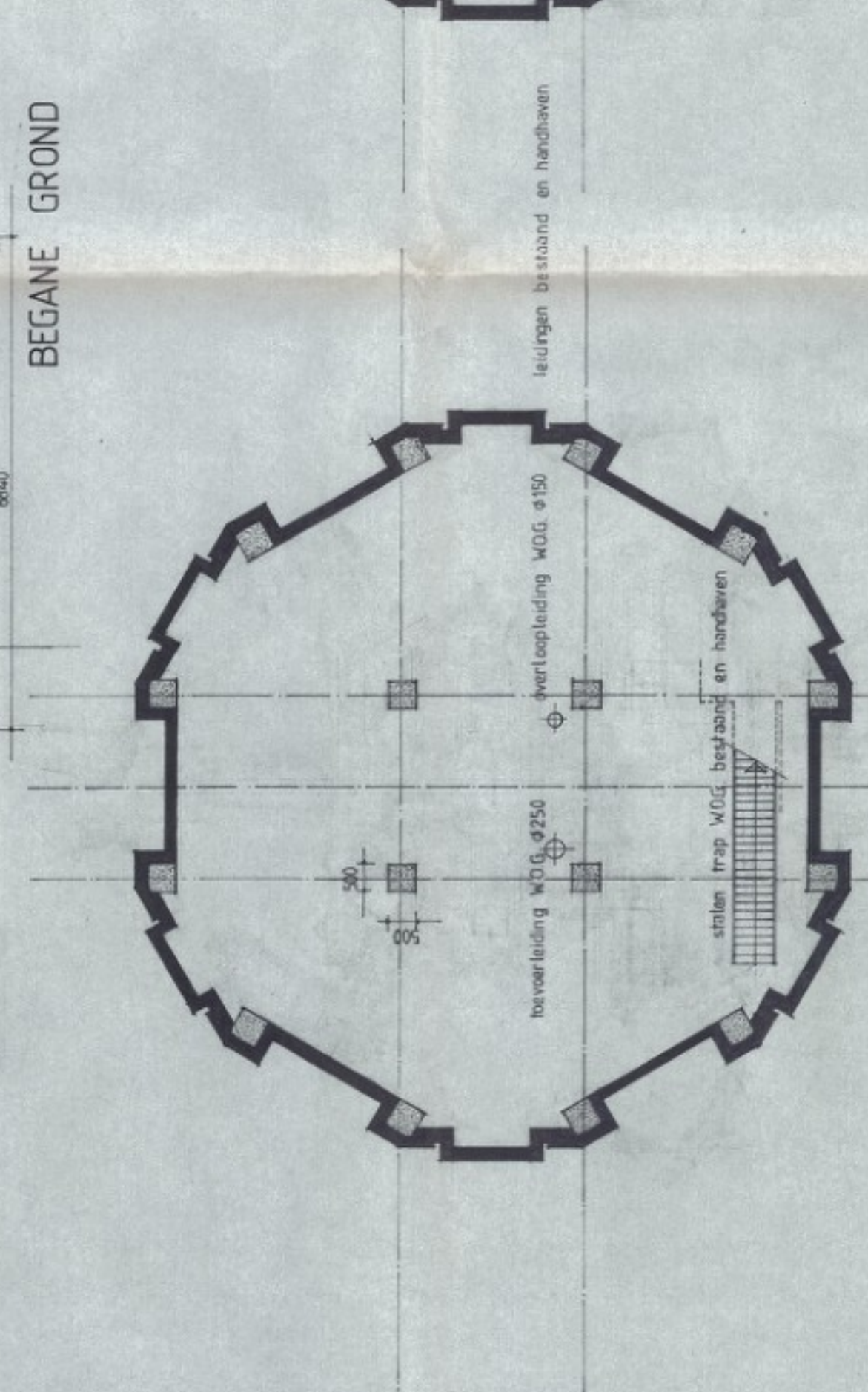
2e VERDIEPING



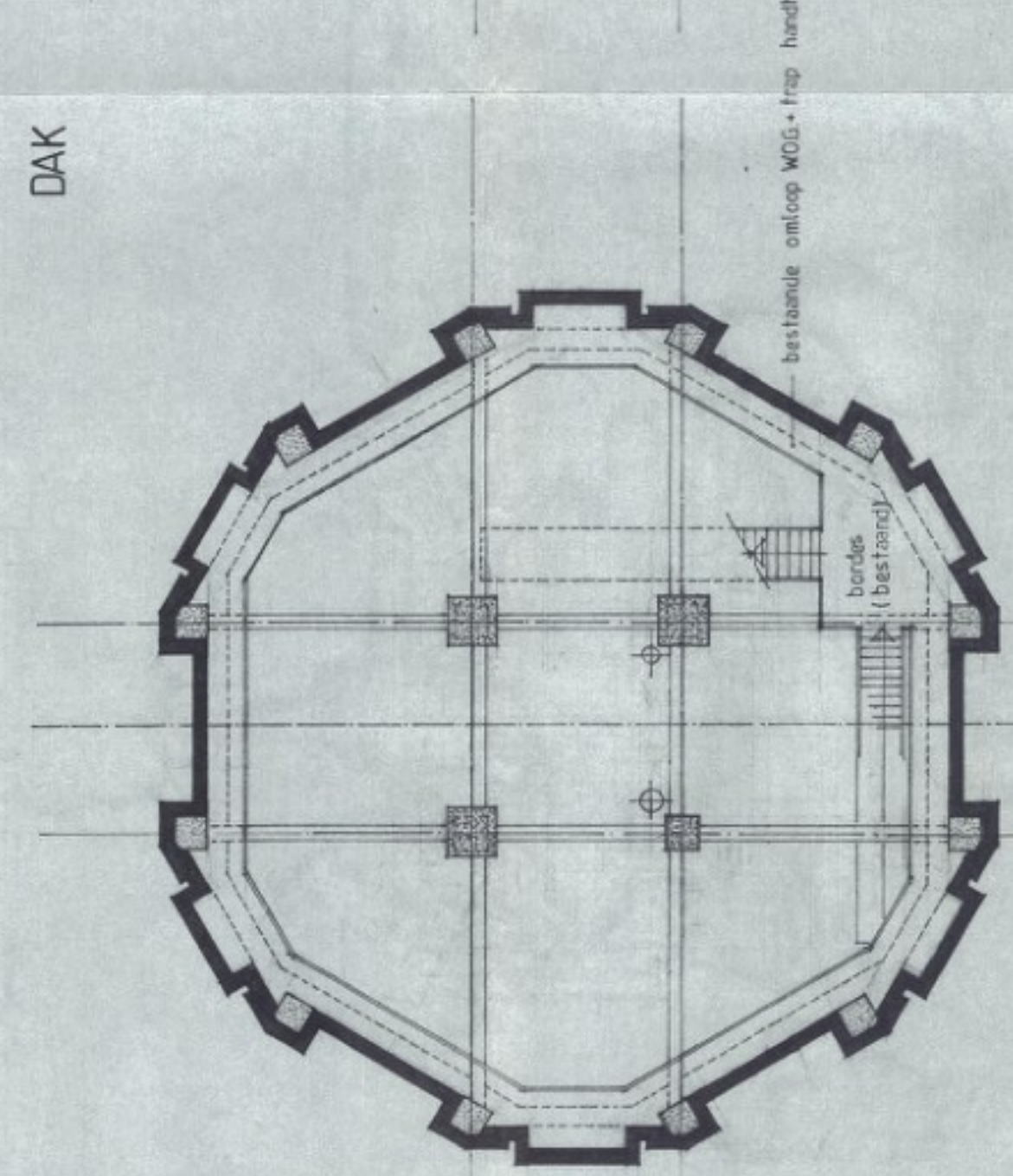
3e VERDIEPING



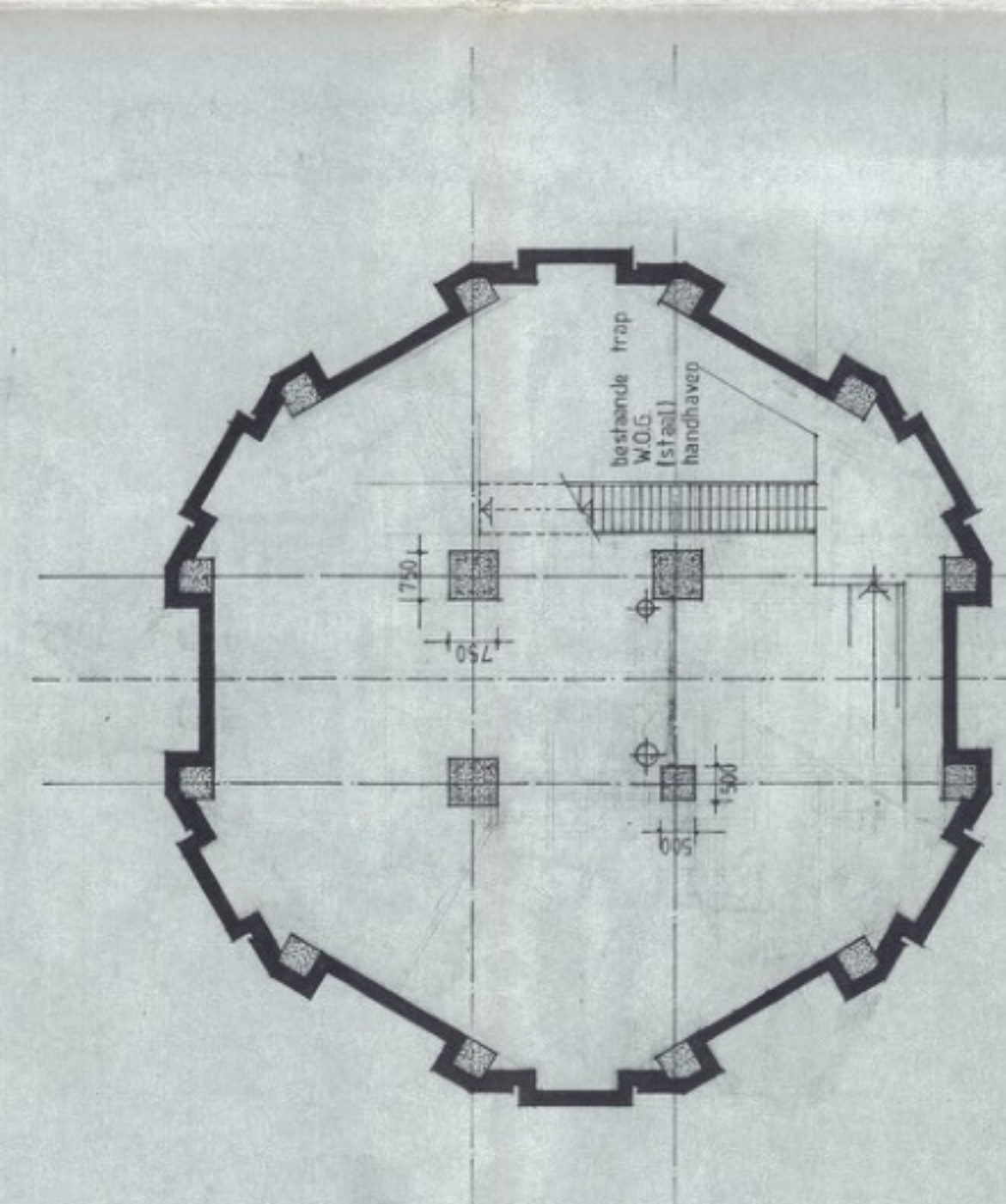
4e VERDIEPING



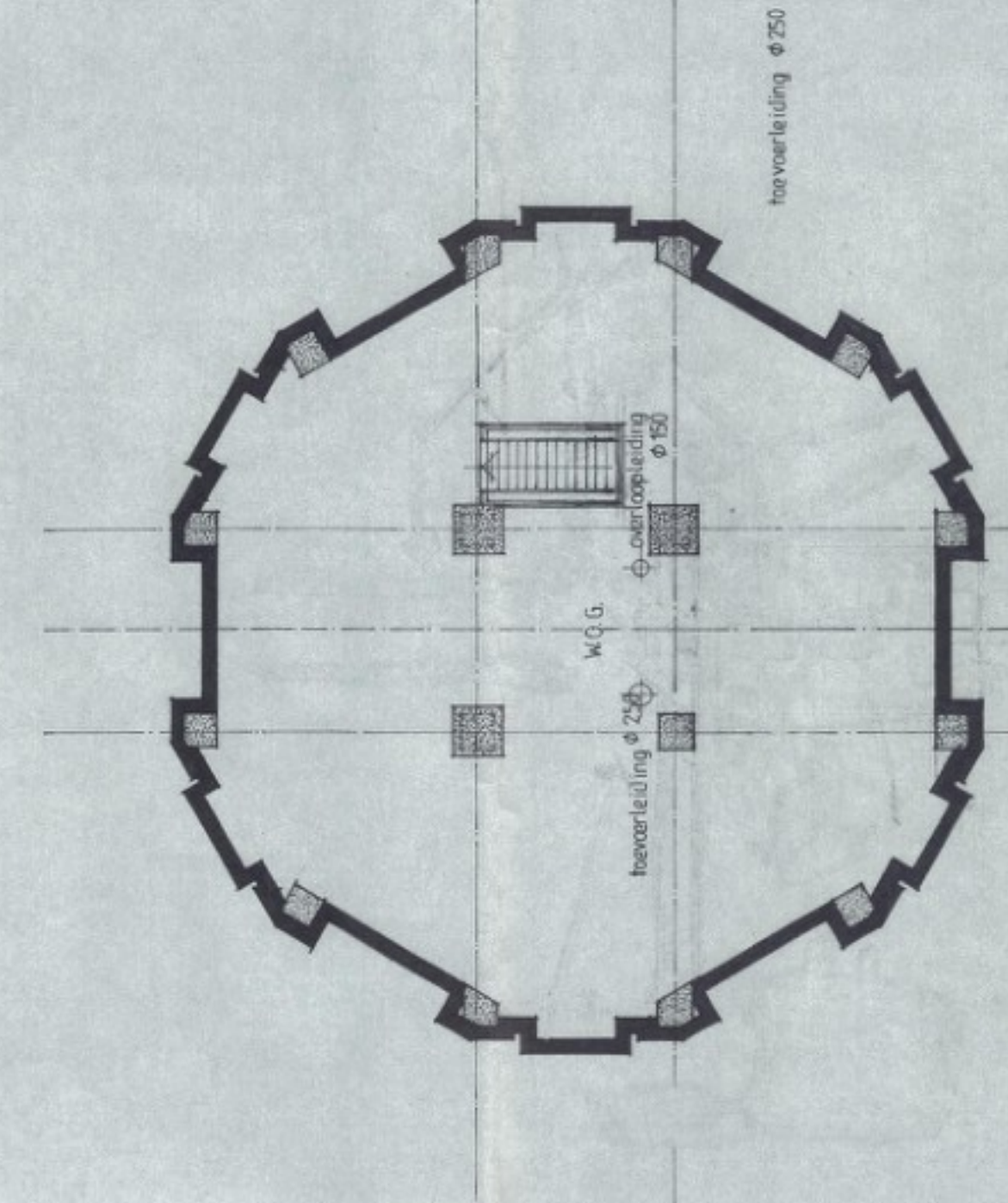
BEGANE GROND



1e VERDIEPING



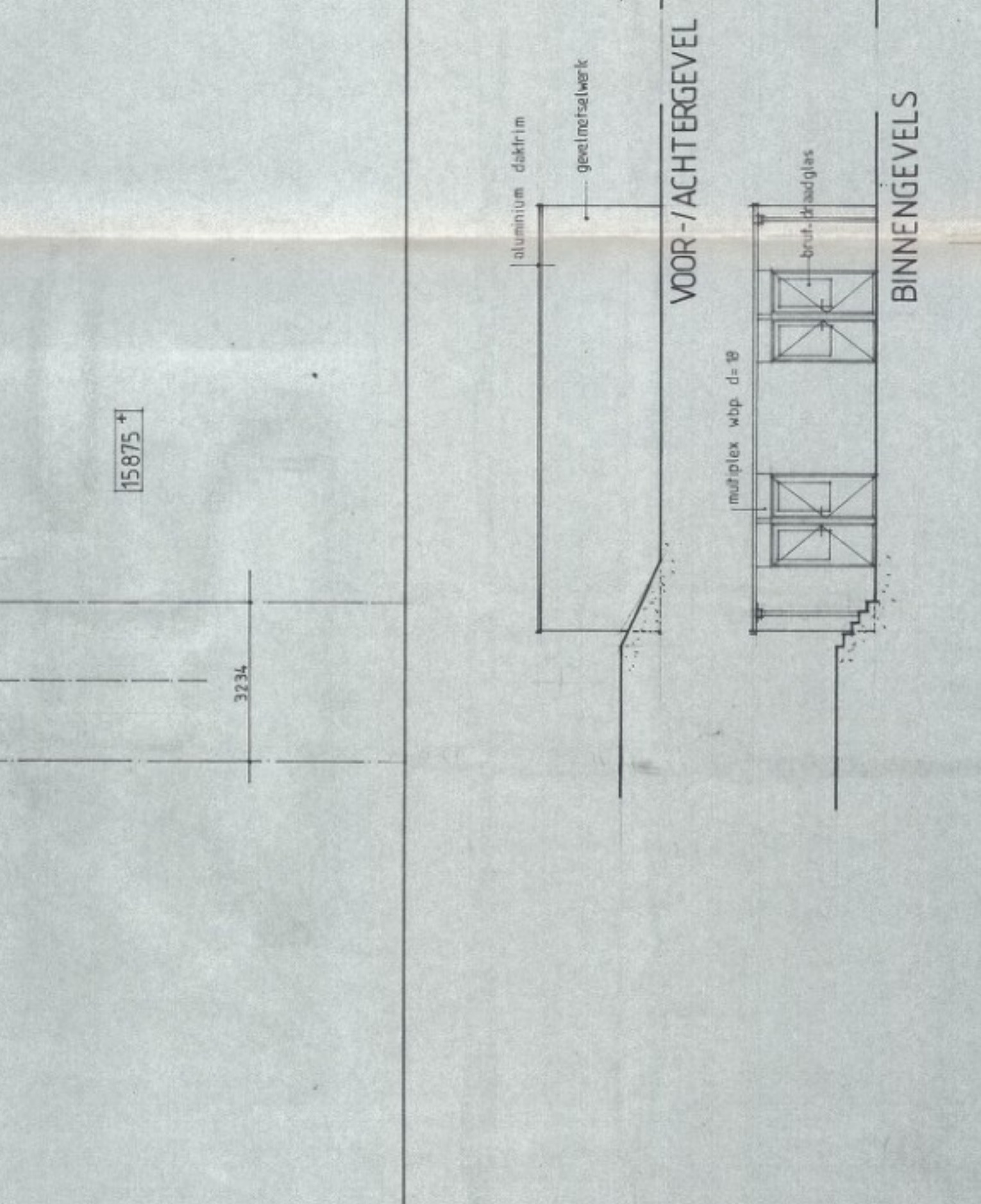
2e VERDIEPING



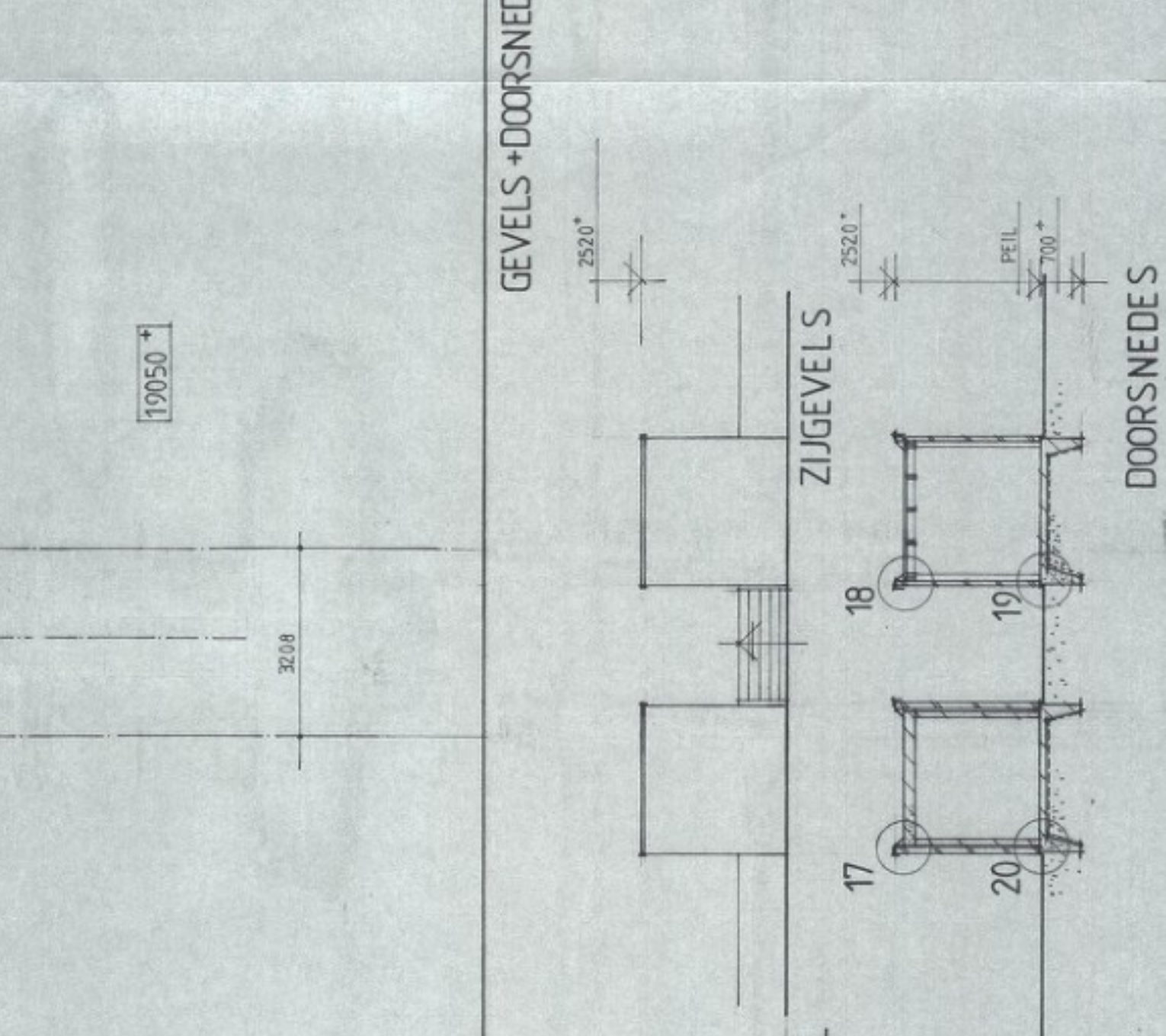
3e VERDIEPING



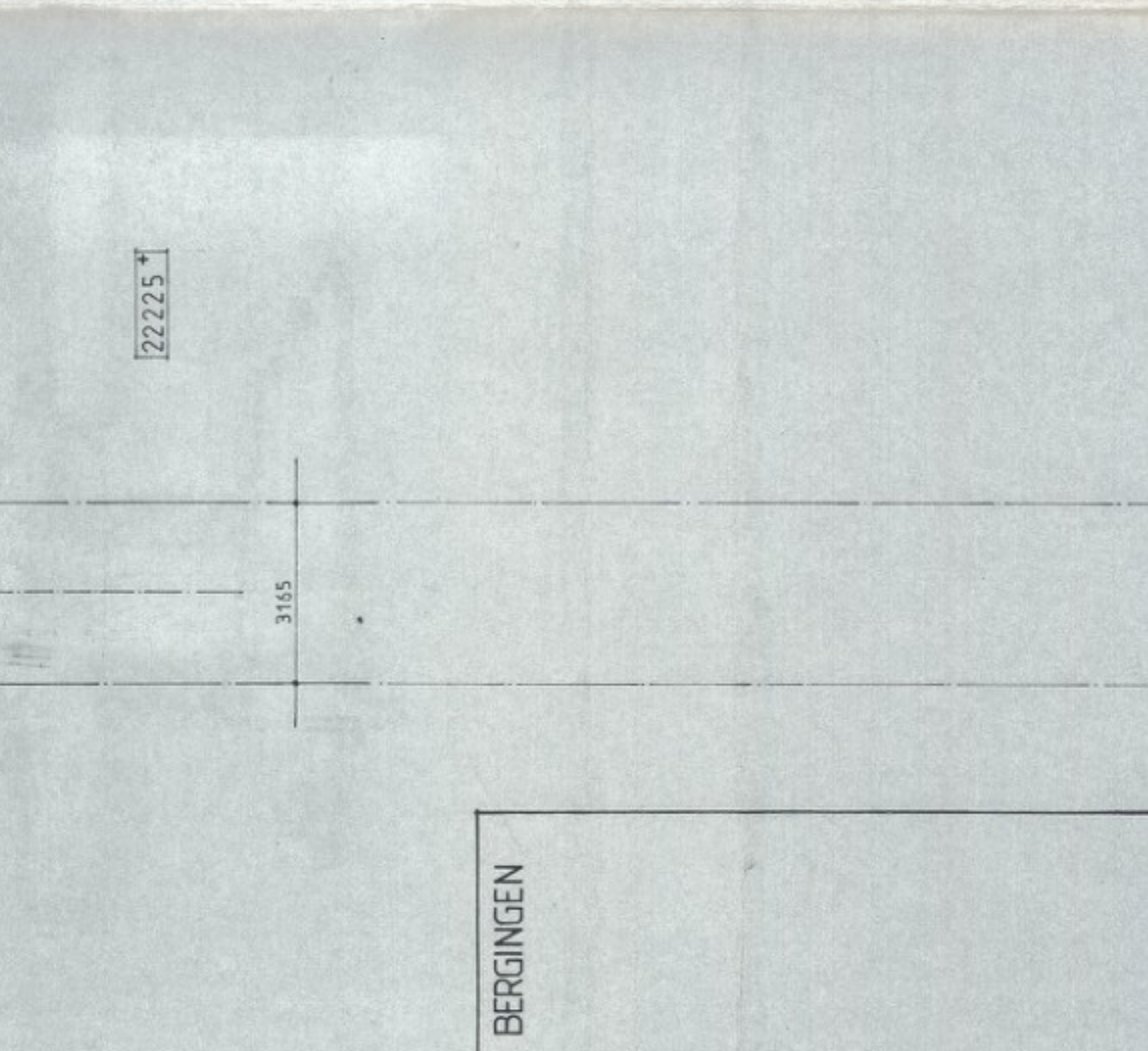
4e VERDIEPING



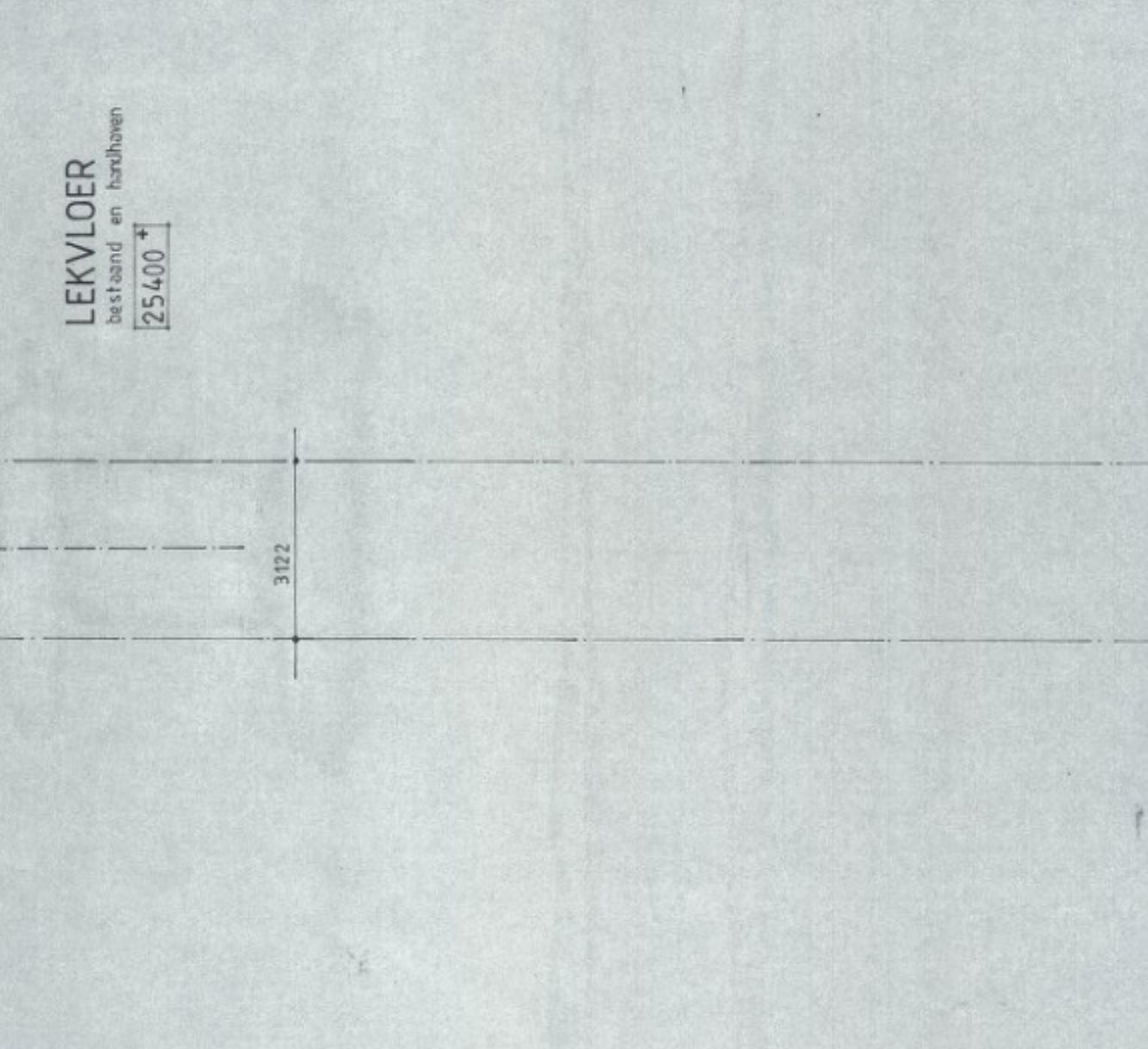
BEGANE GROND



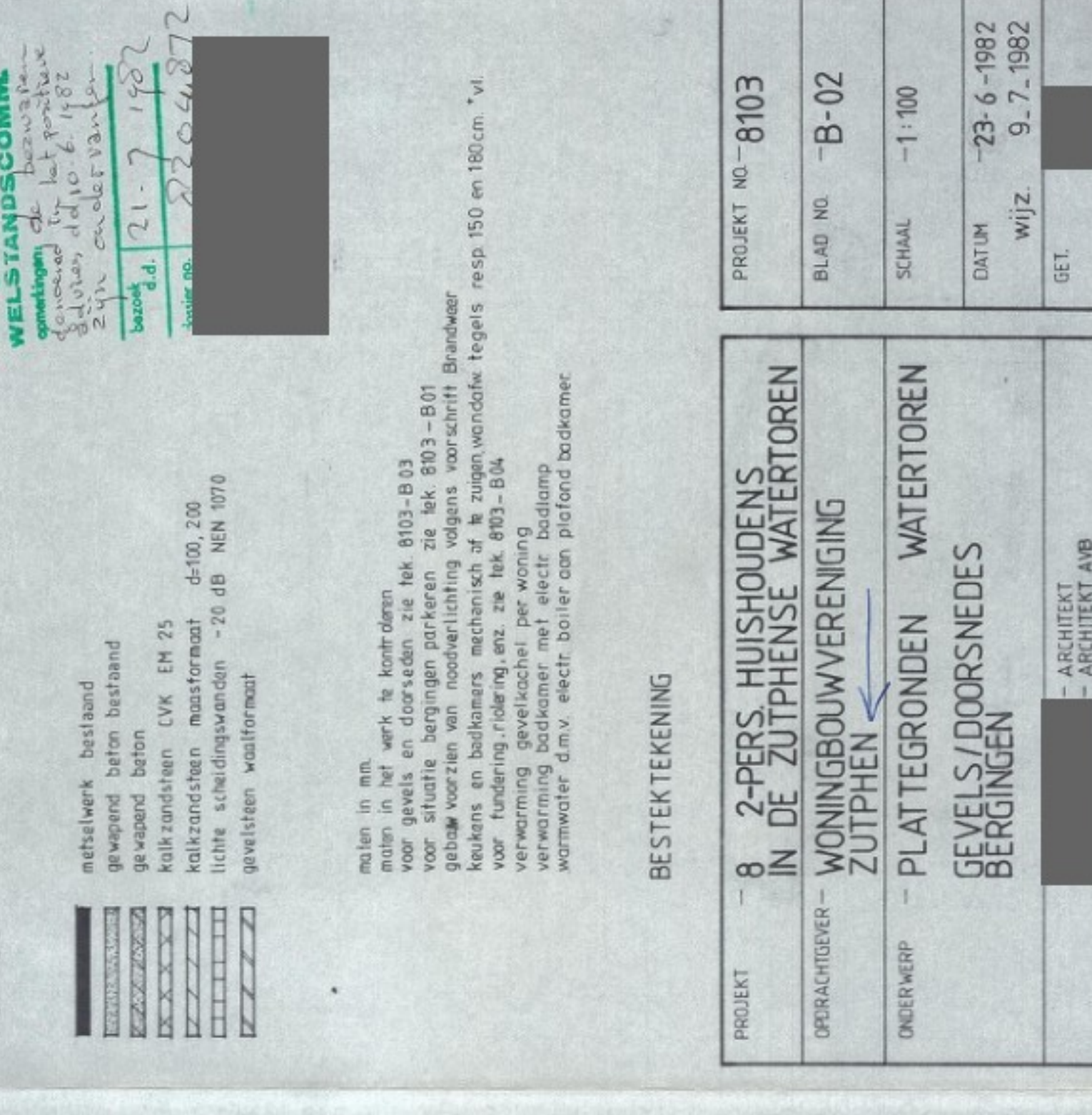
1e VERDIEPING



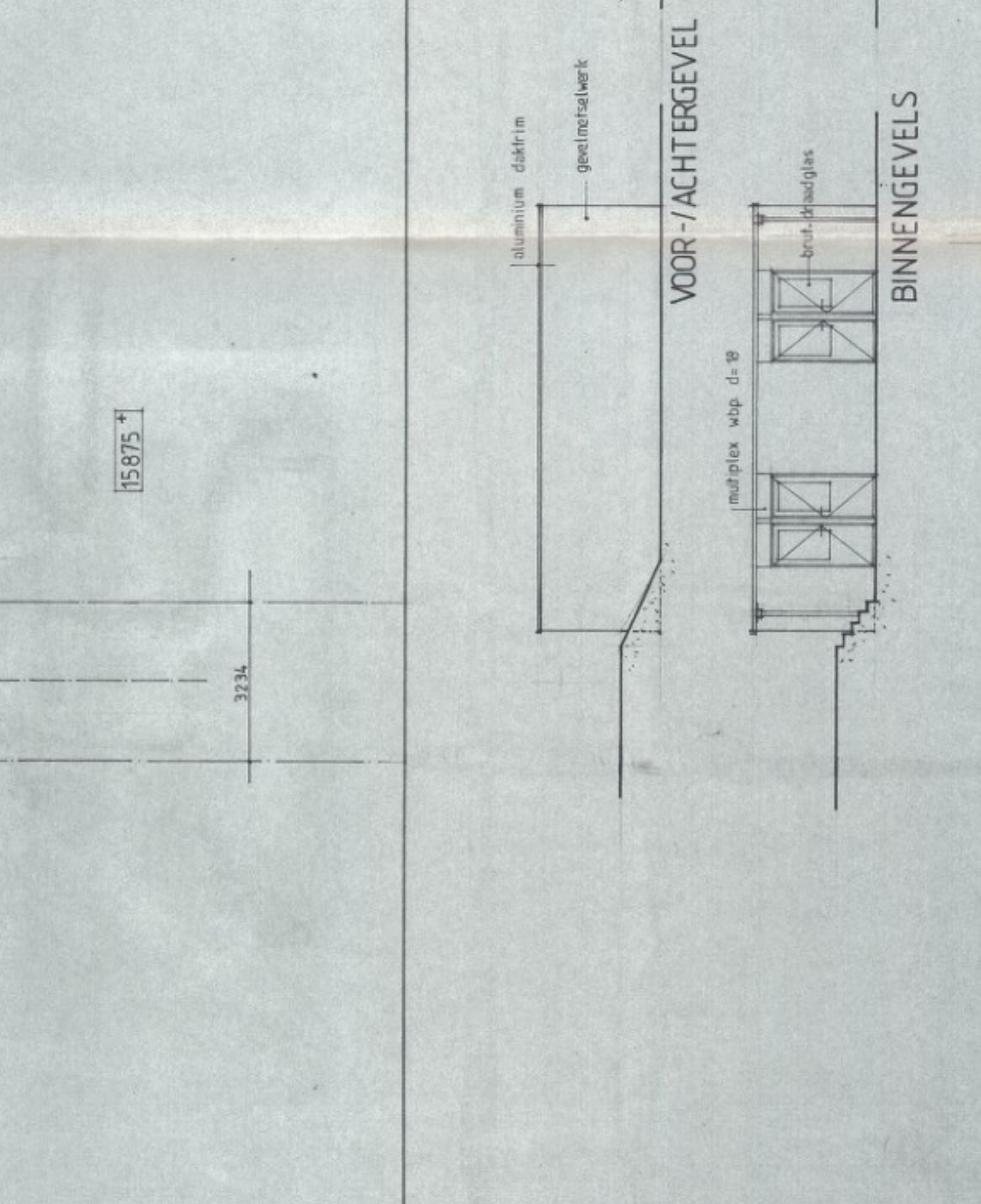
2e VERDIEPING



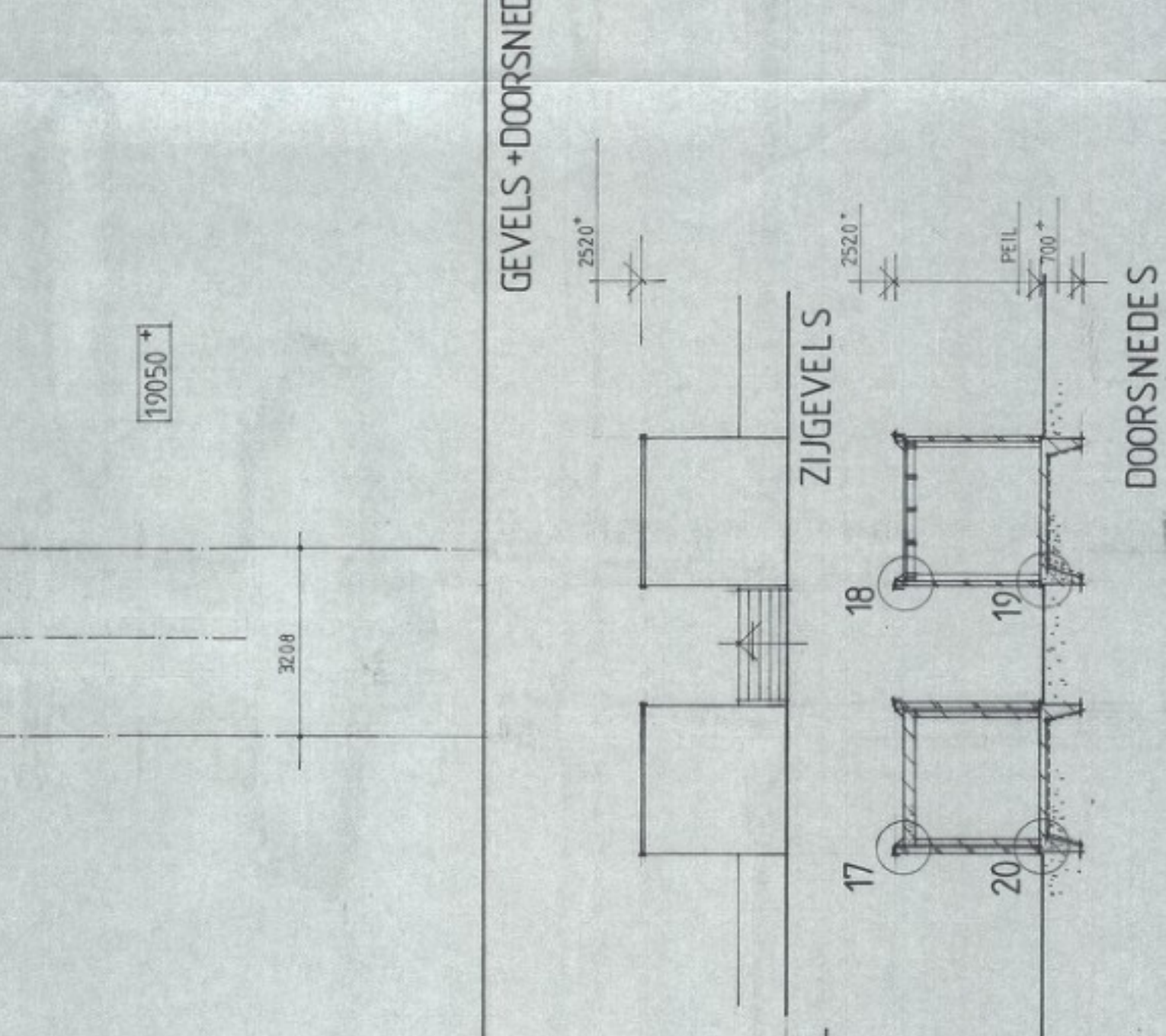
3e VERDIEPING



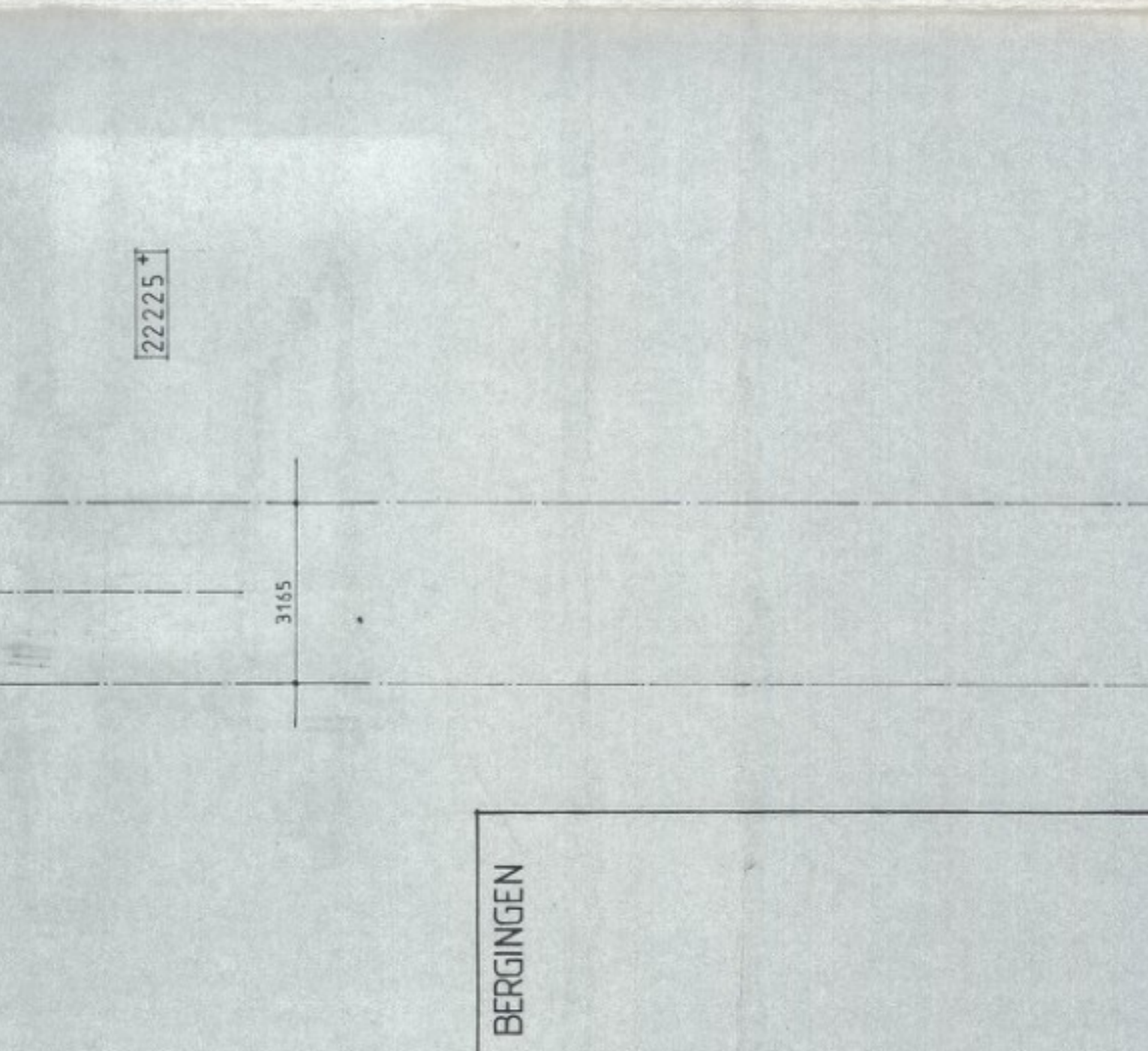
4e VERDIEPING



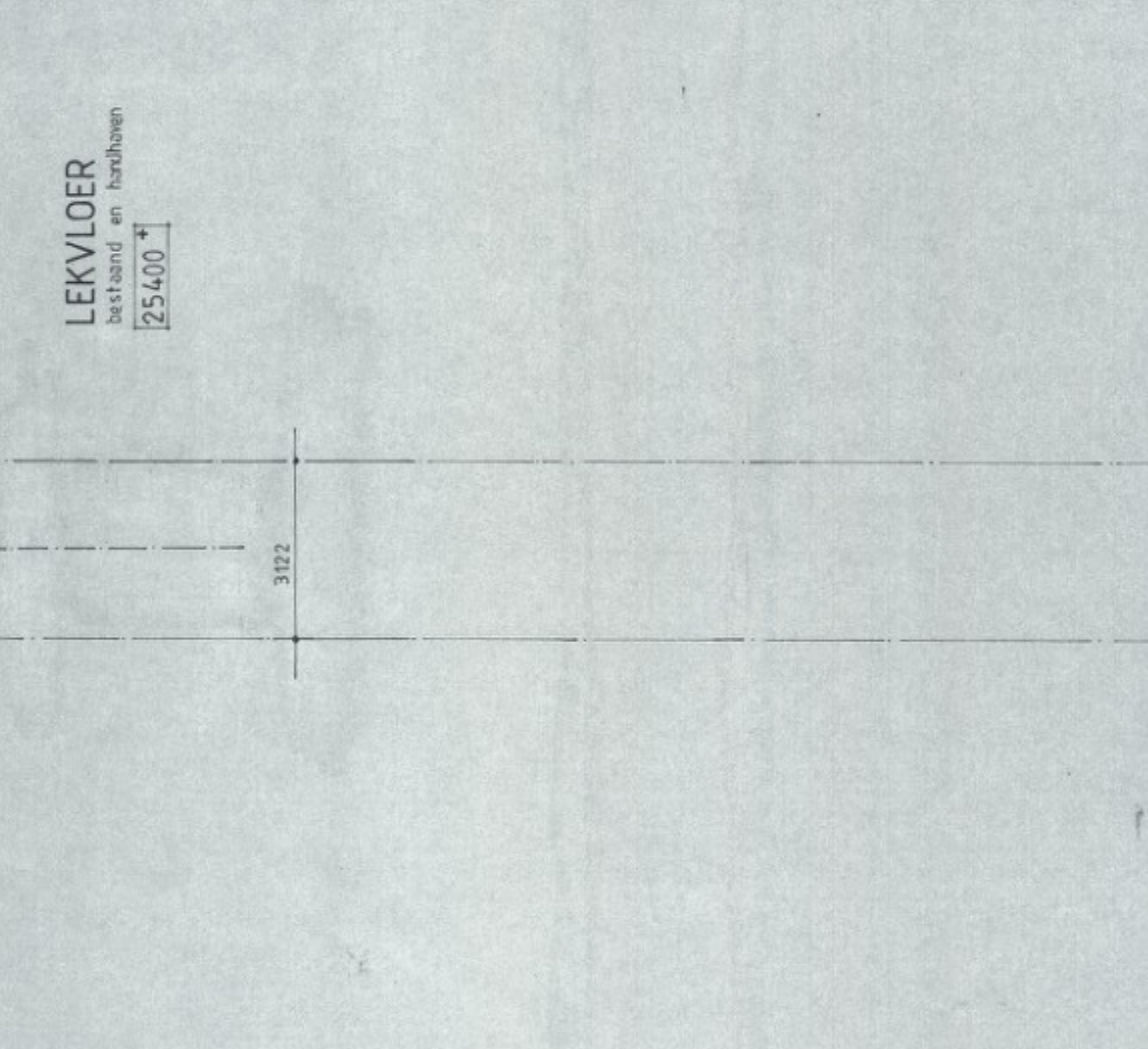
BEGANE GROND



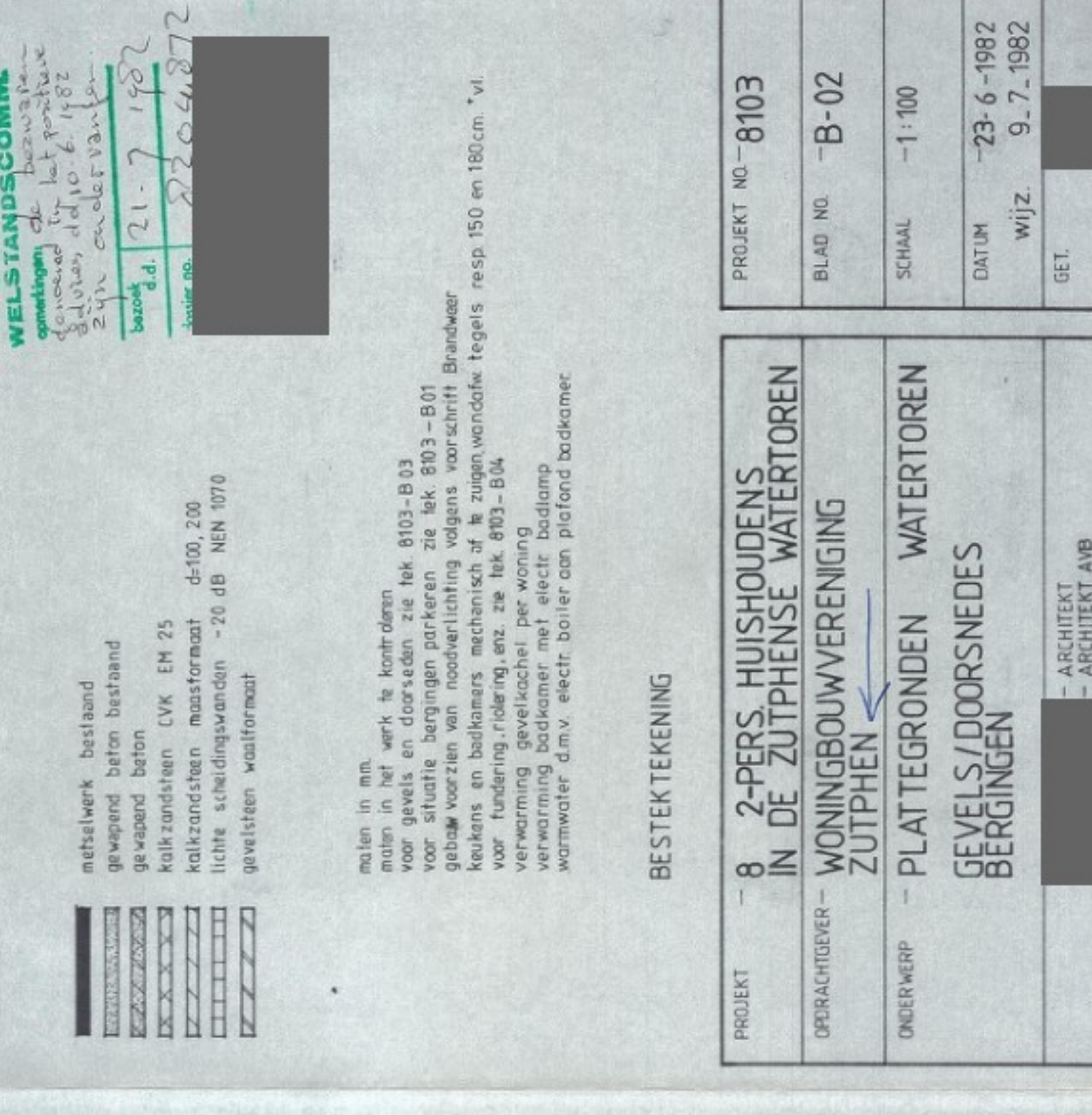
1e VERDIEPING



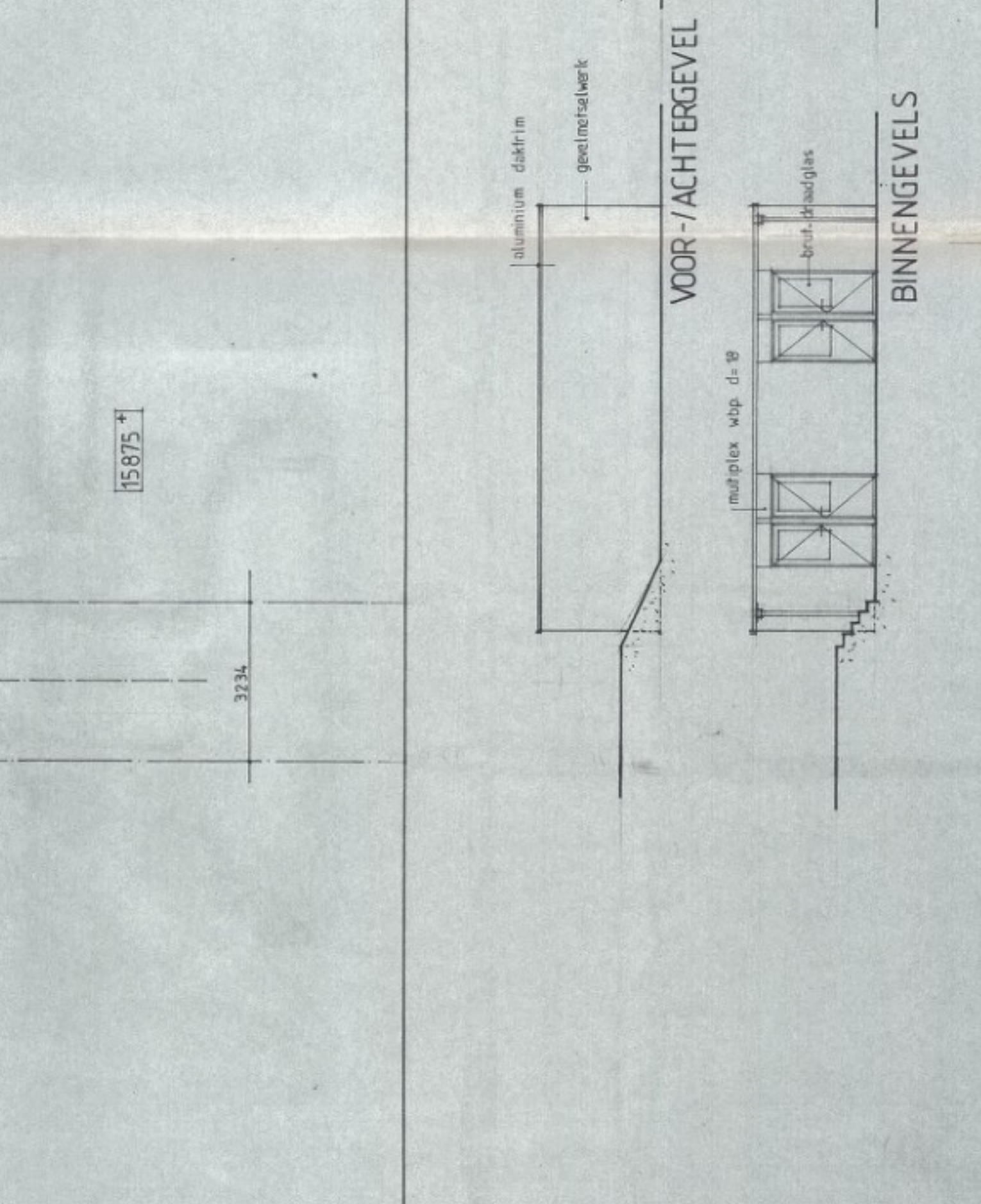
2e VERDIEPING



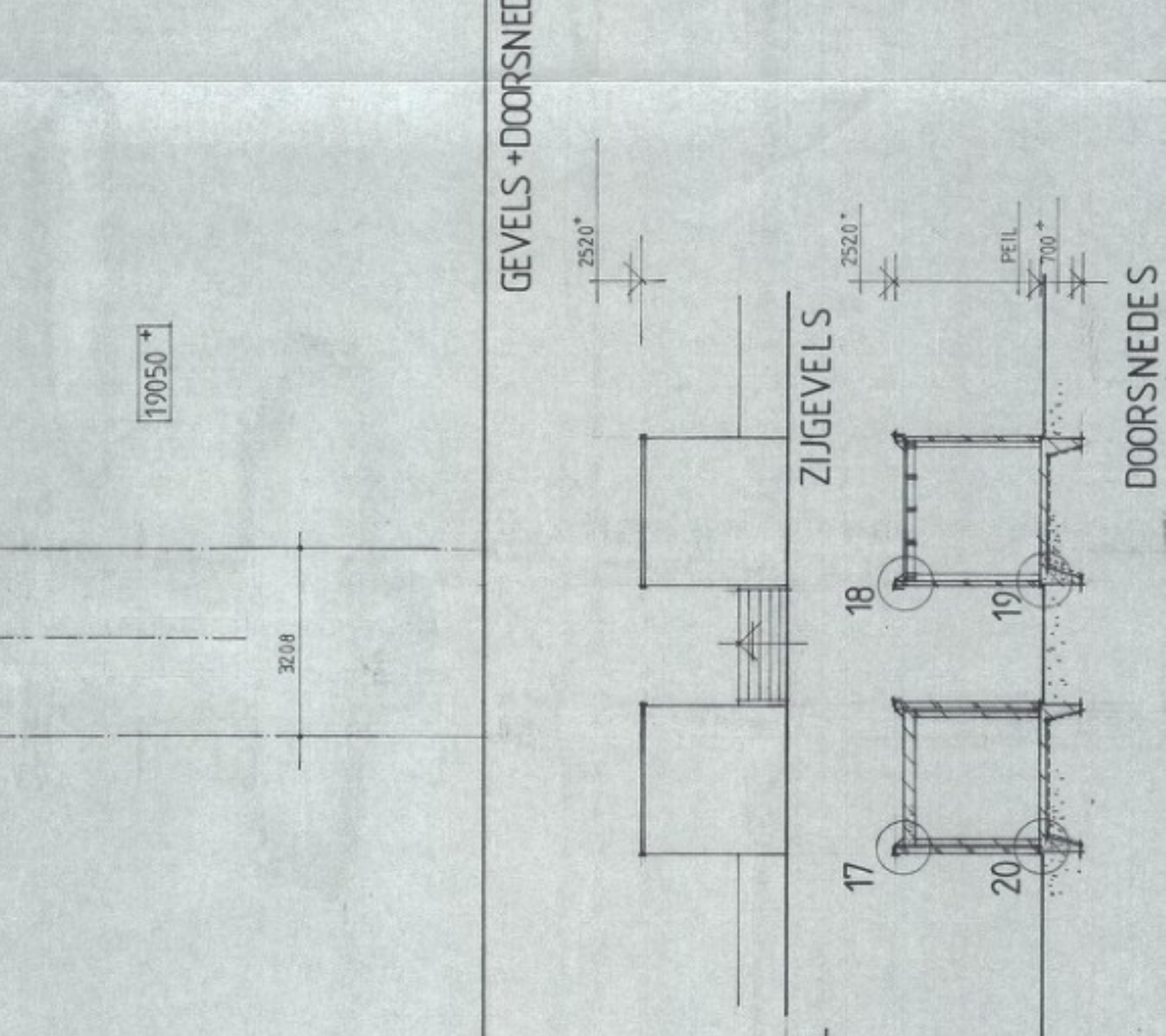
3e VERDIEPING



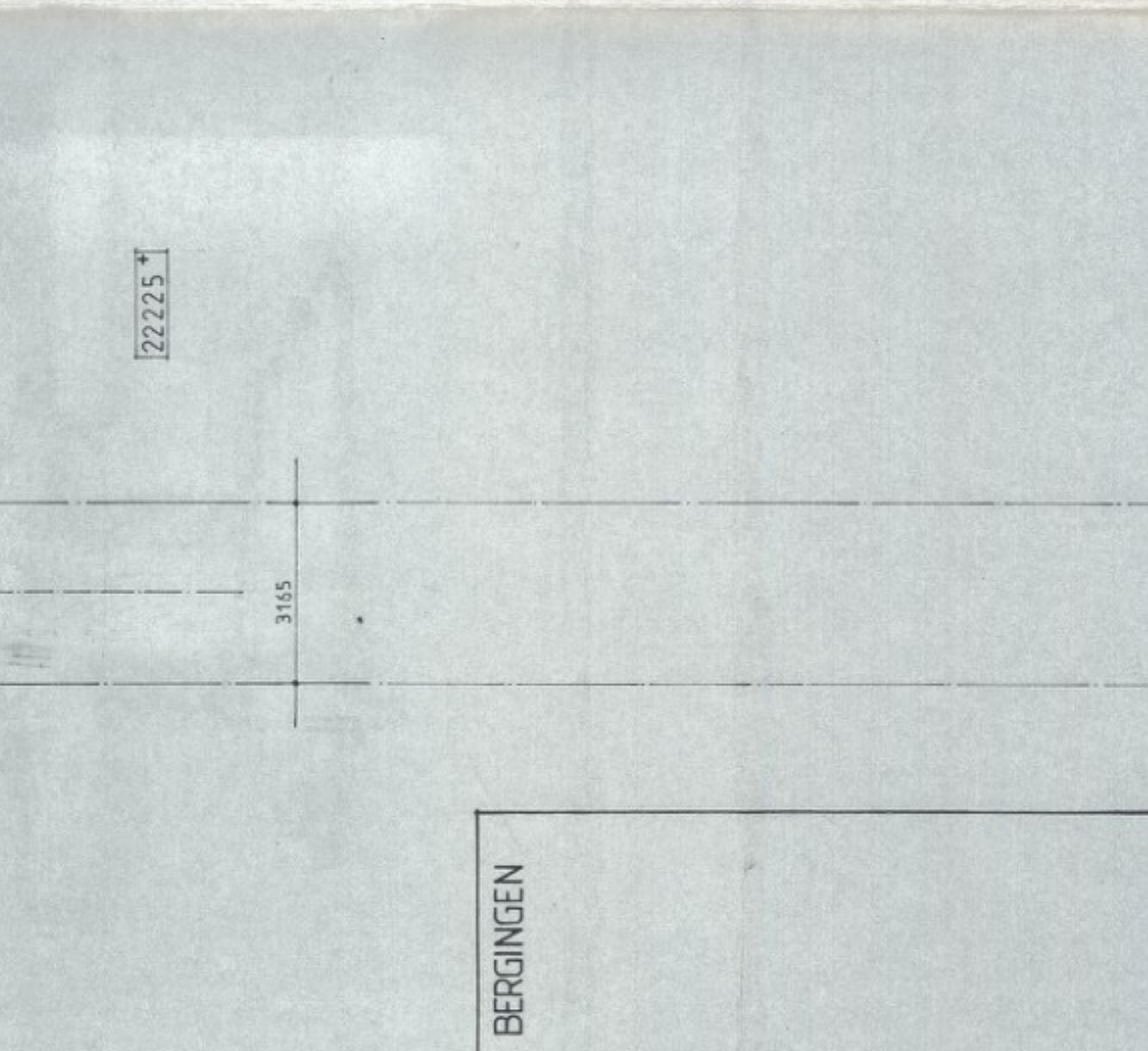
4e VERDIEPING



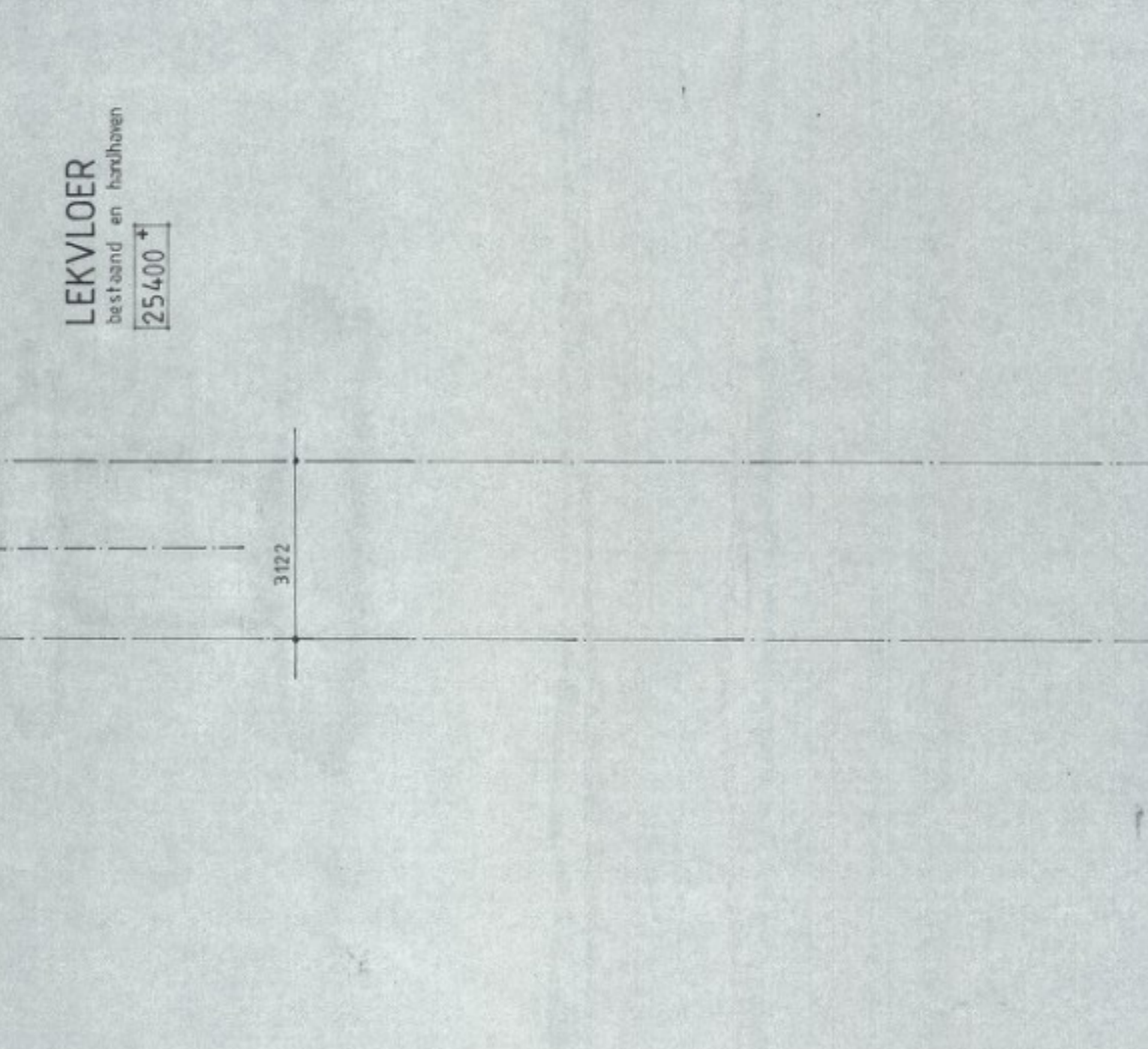
BEGANE GROND



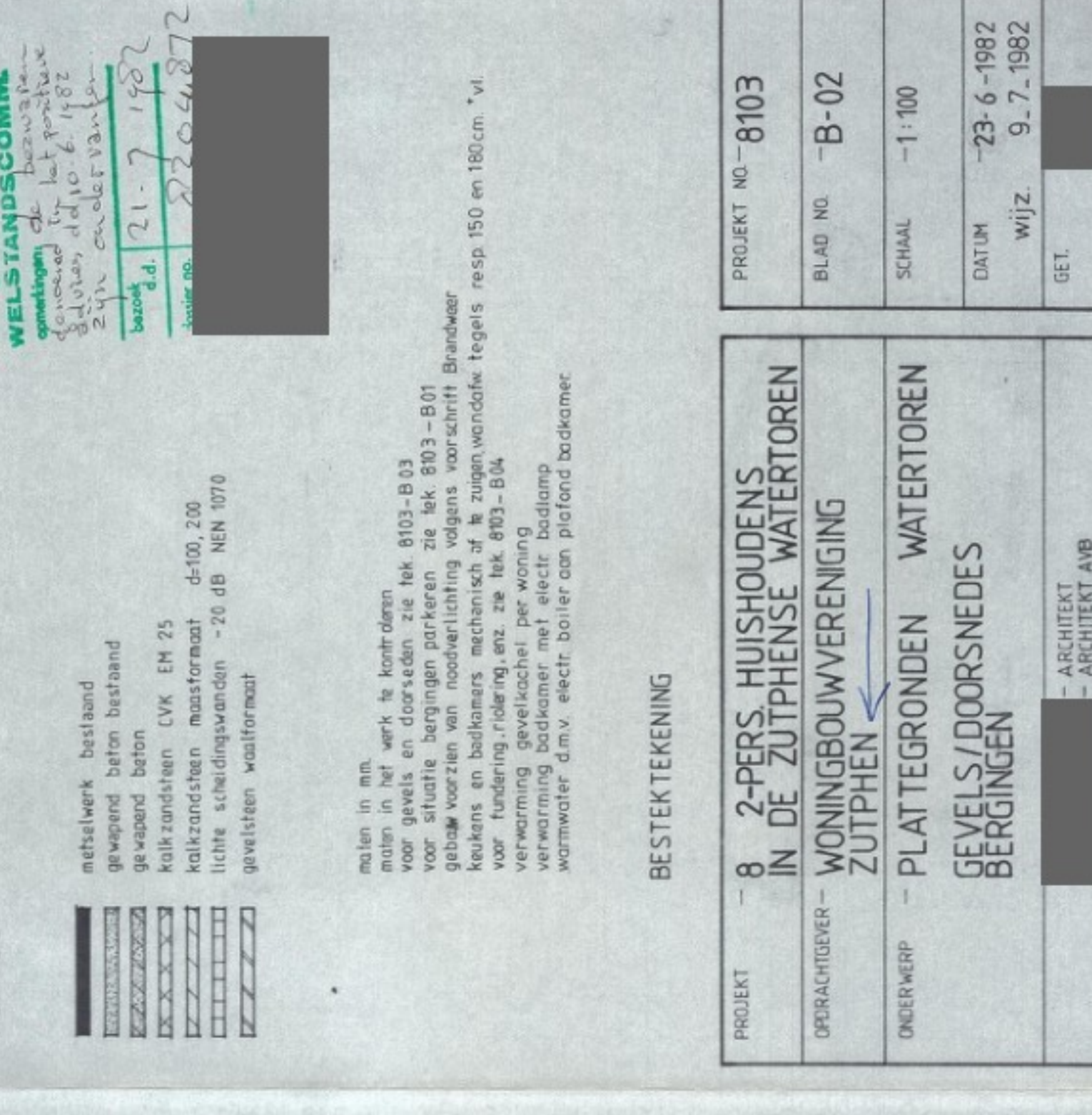
1e VERDIEPING



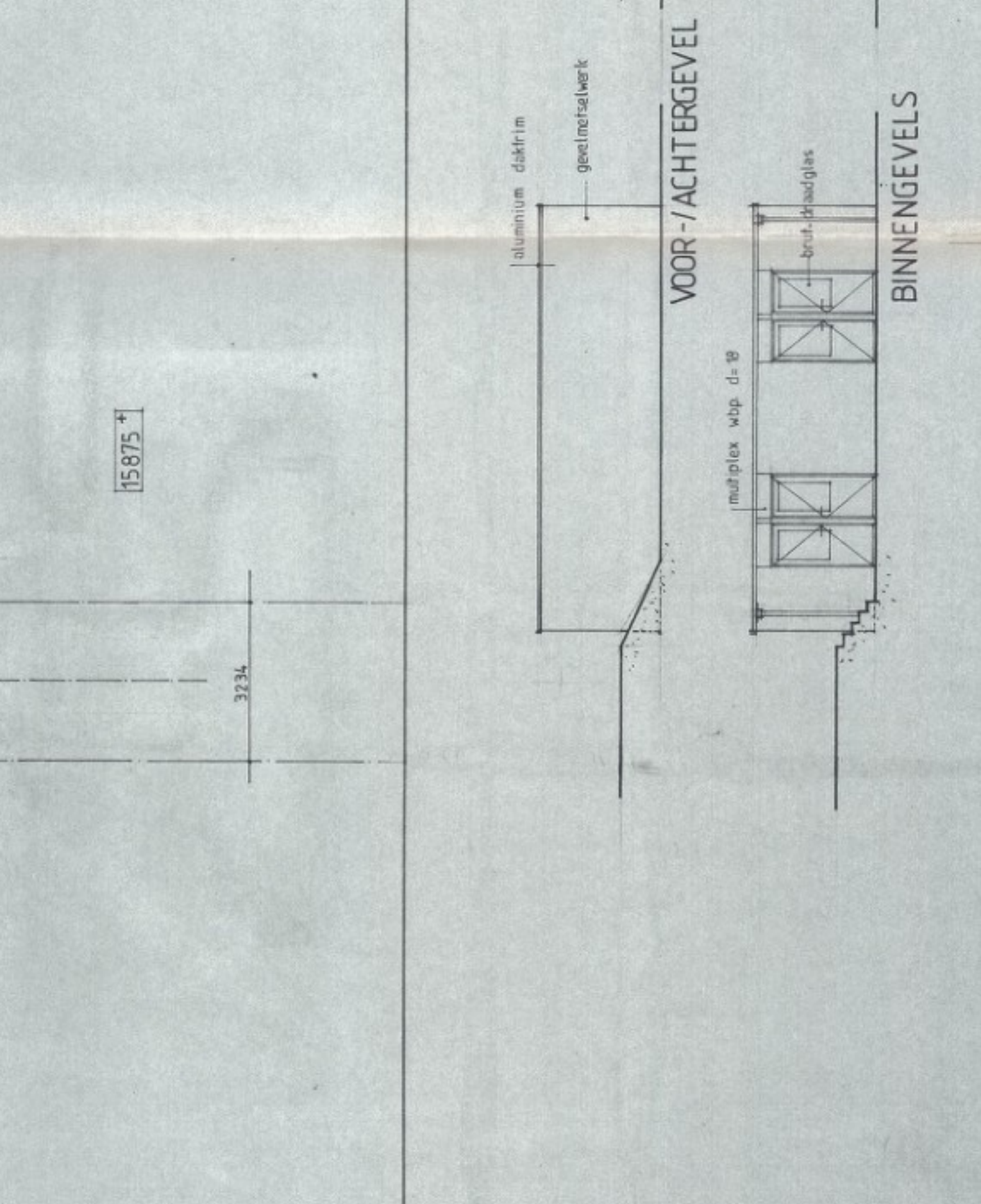
2e VERDIEPING



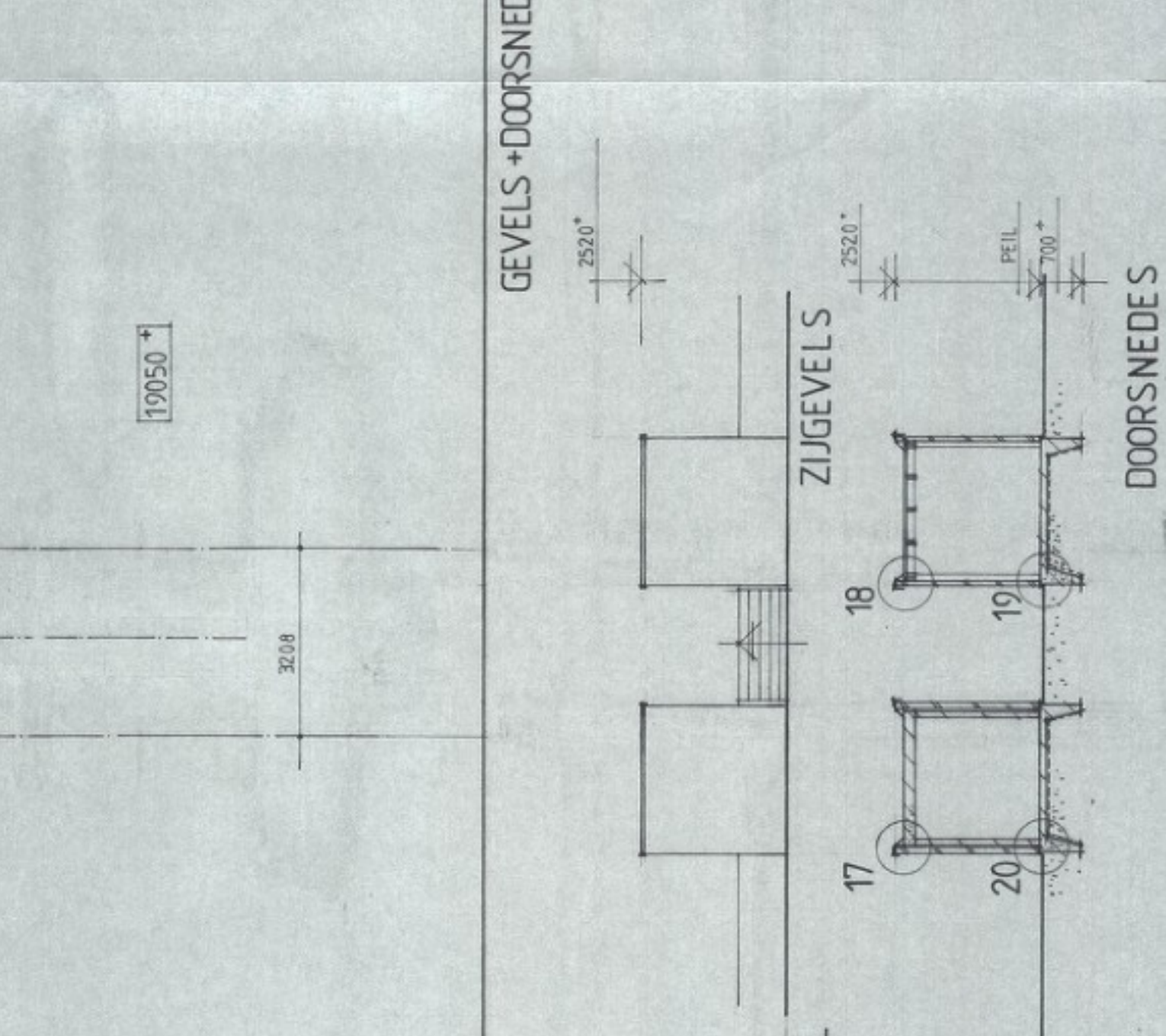
3e VERDIEPING



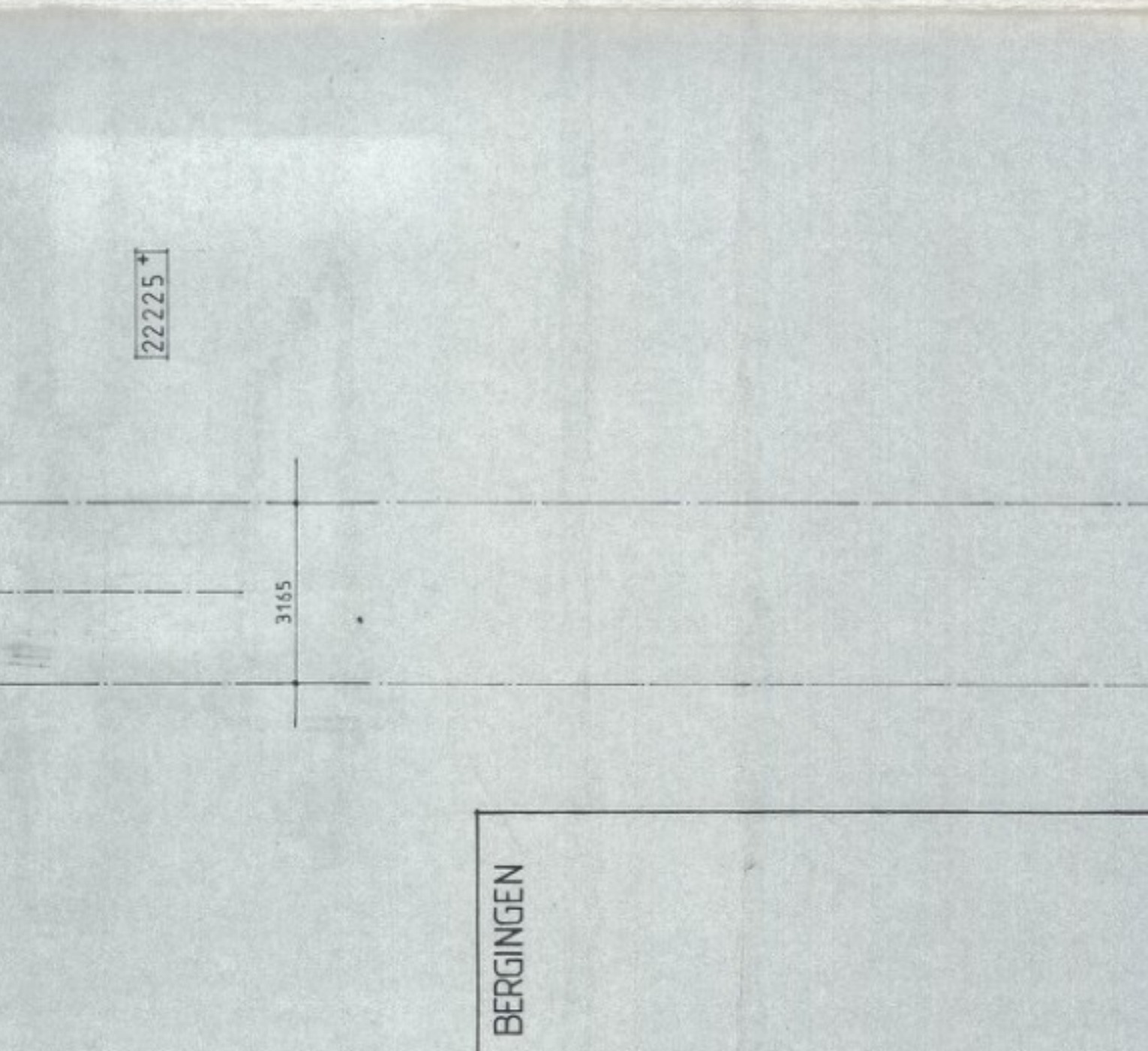
4e VERDIEPING



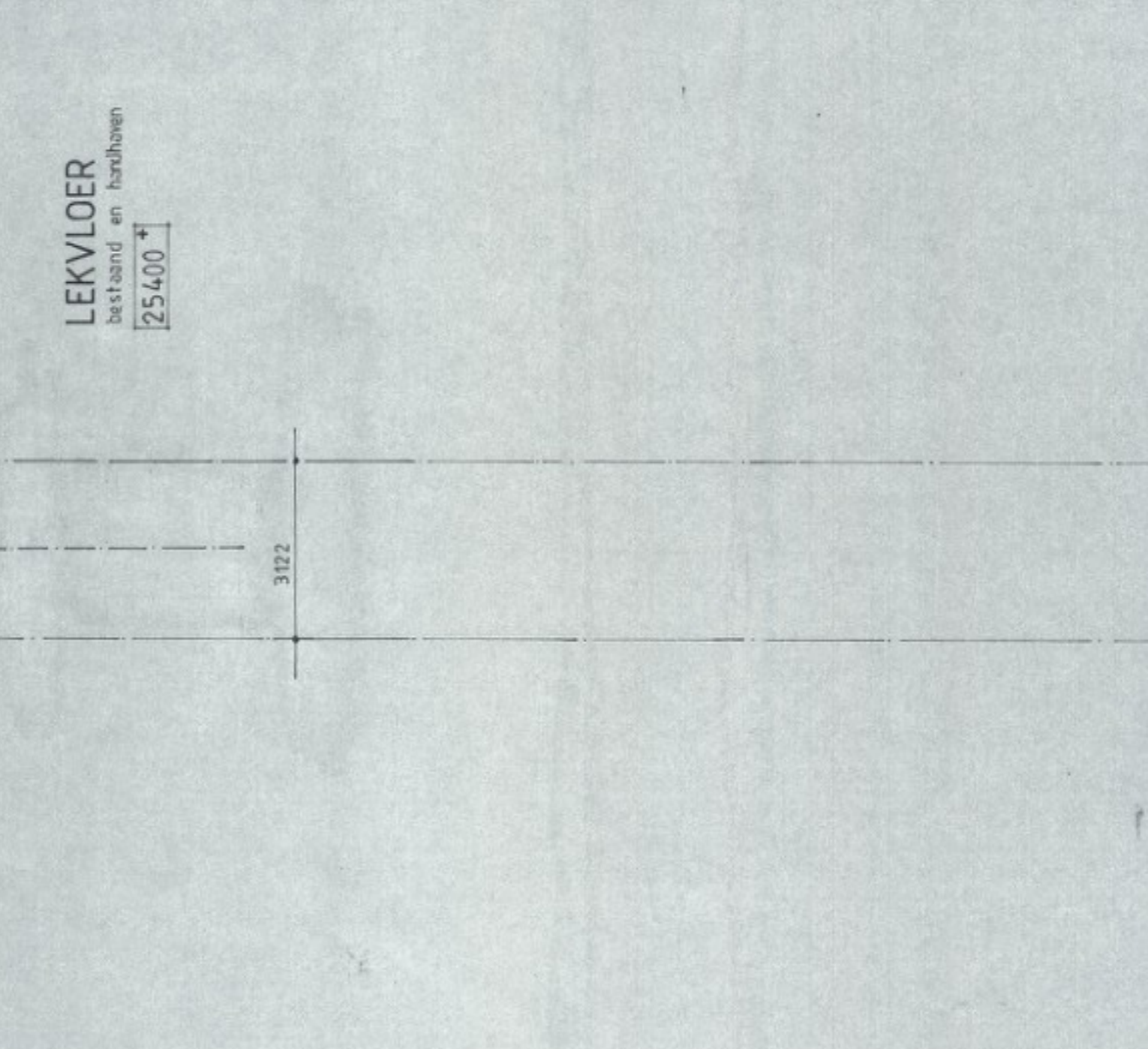
BEGANE GROND



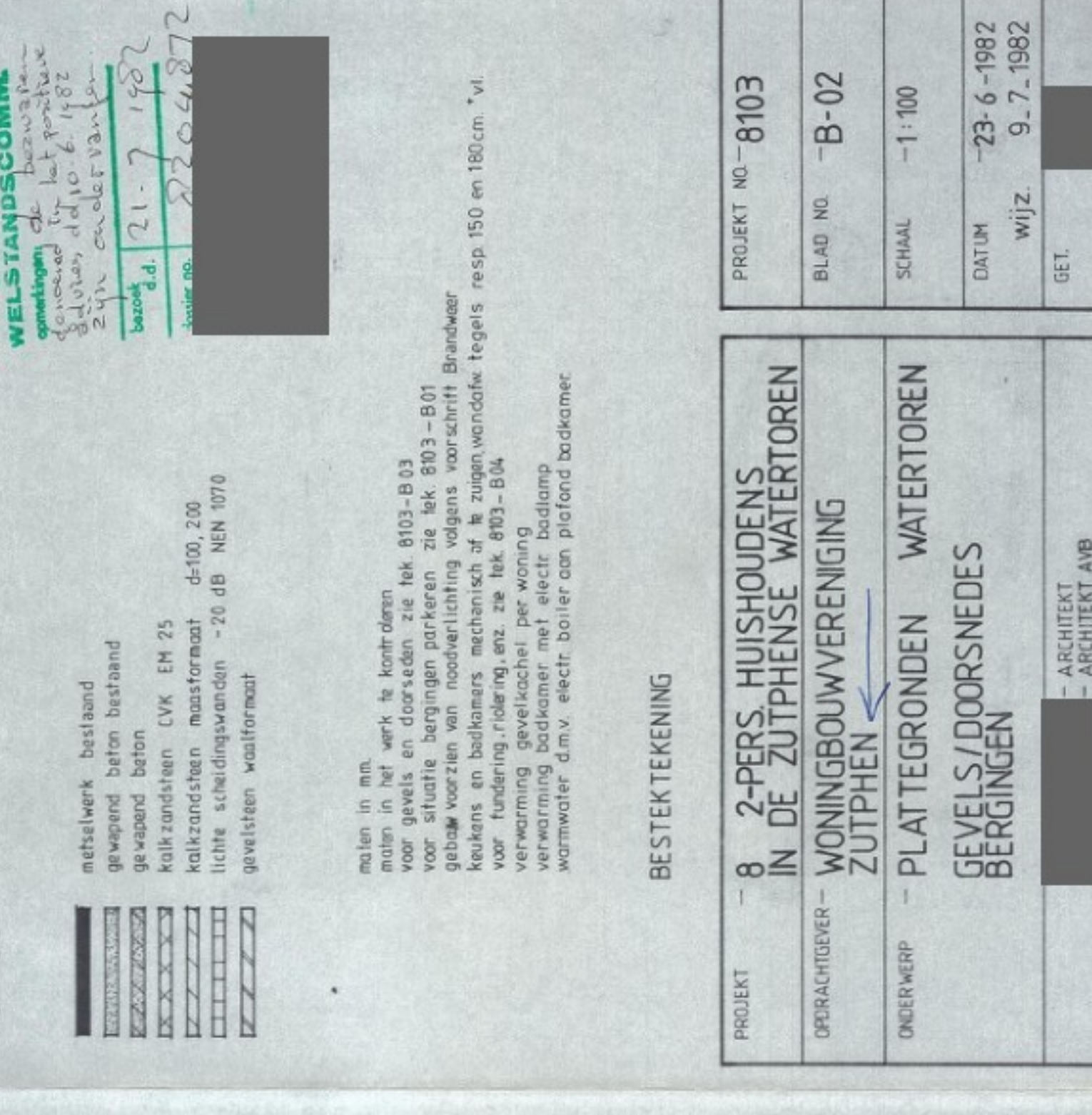
1e VERDIEPING



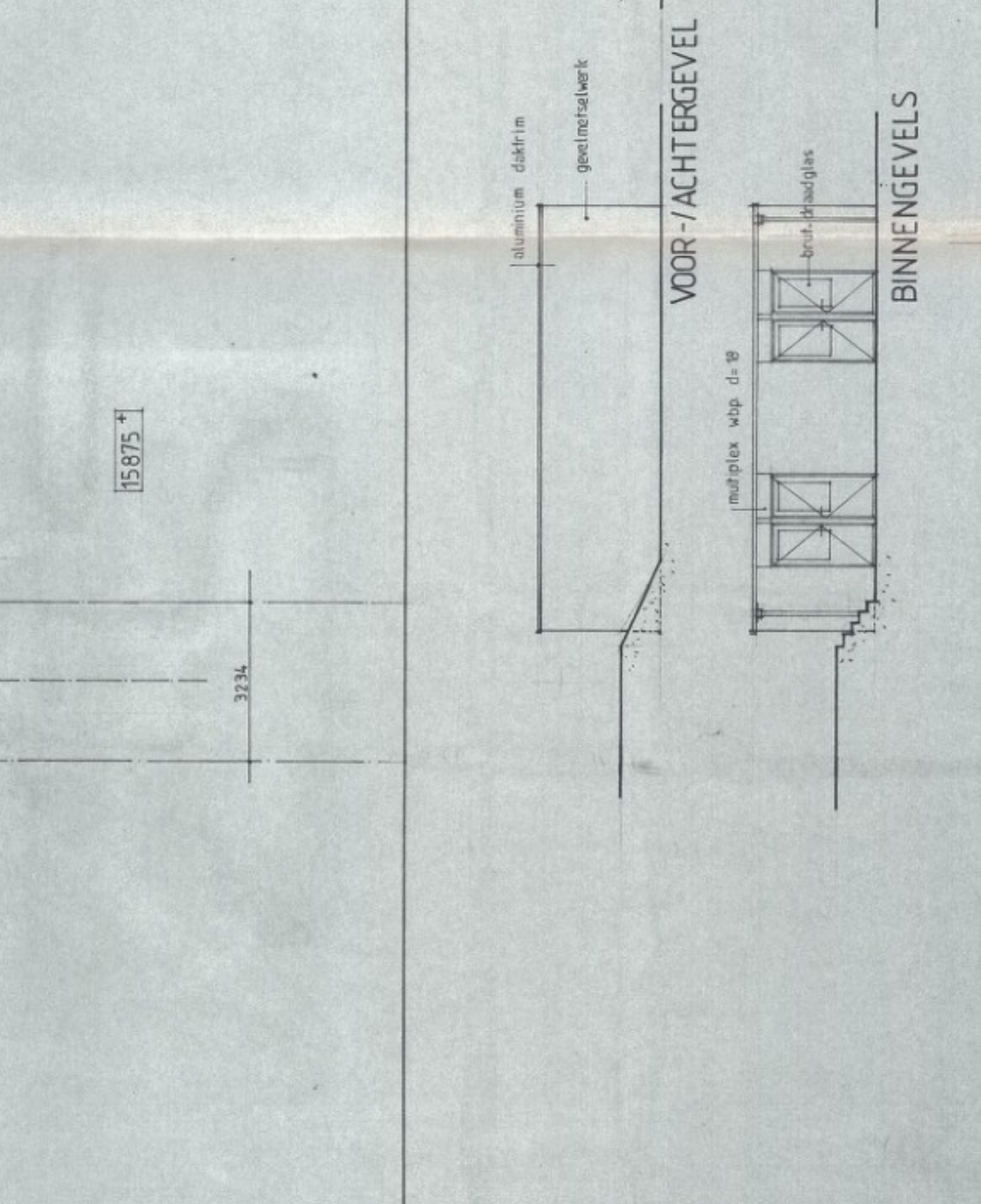
2e VERDIEPING



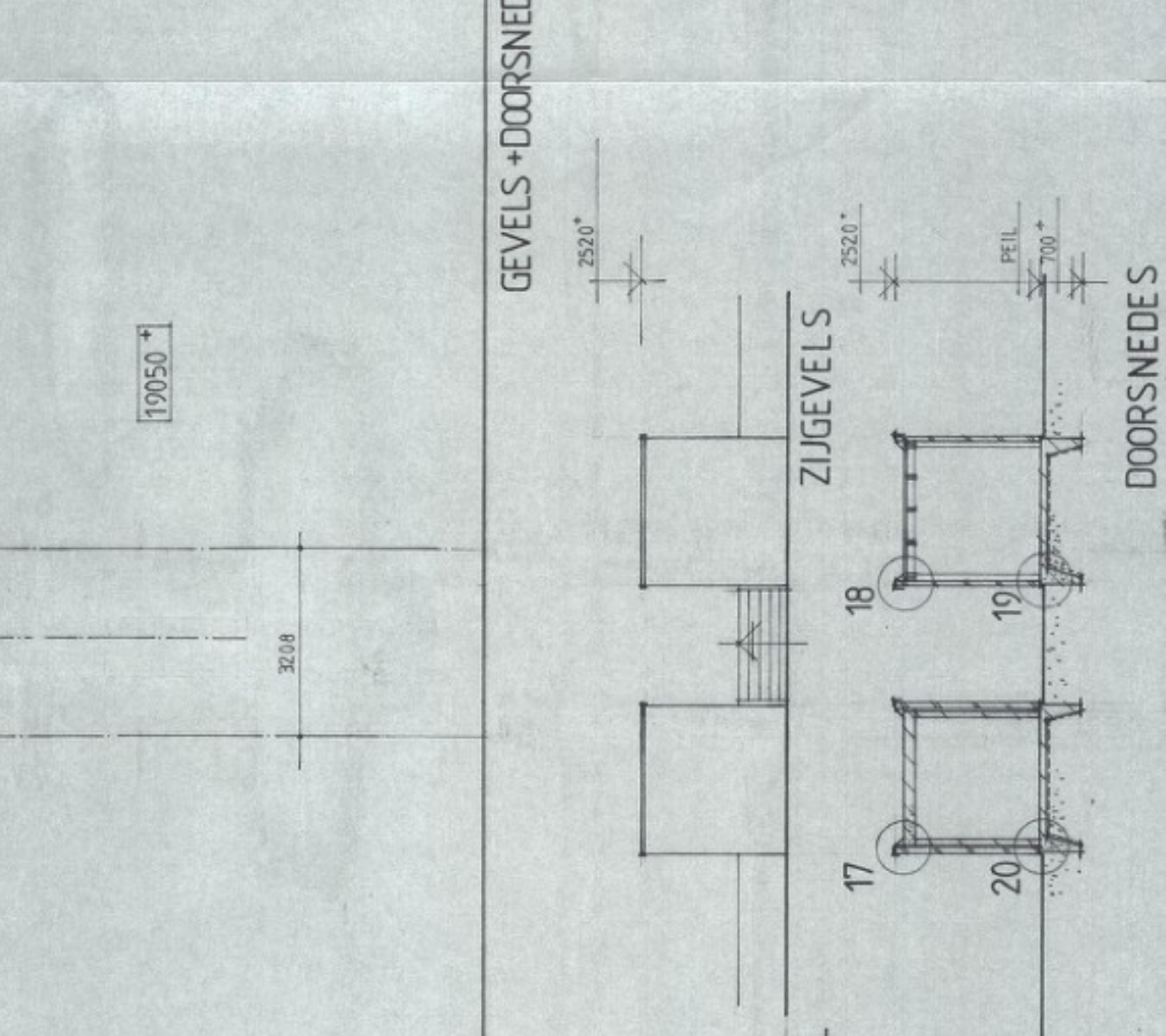
3e VERDIEPING



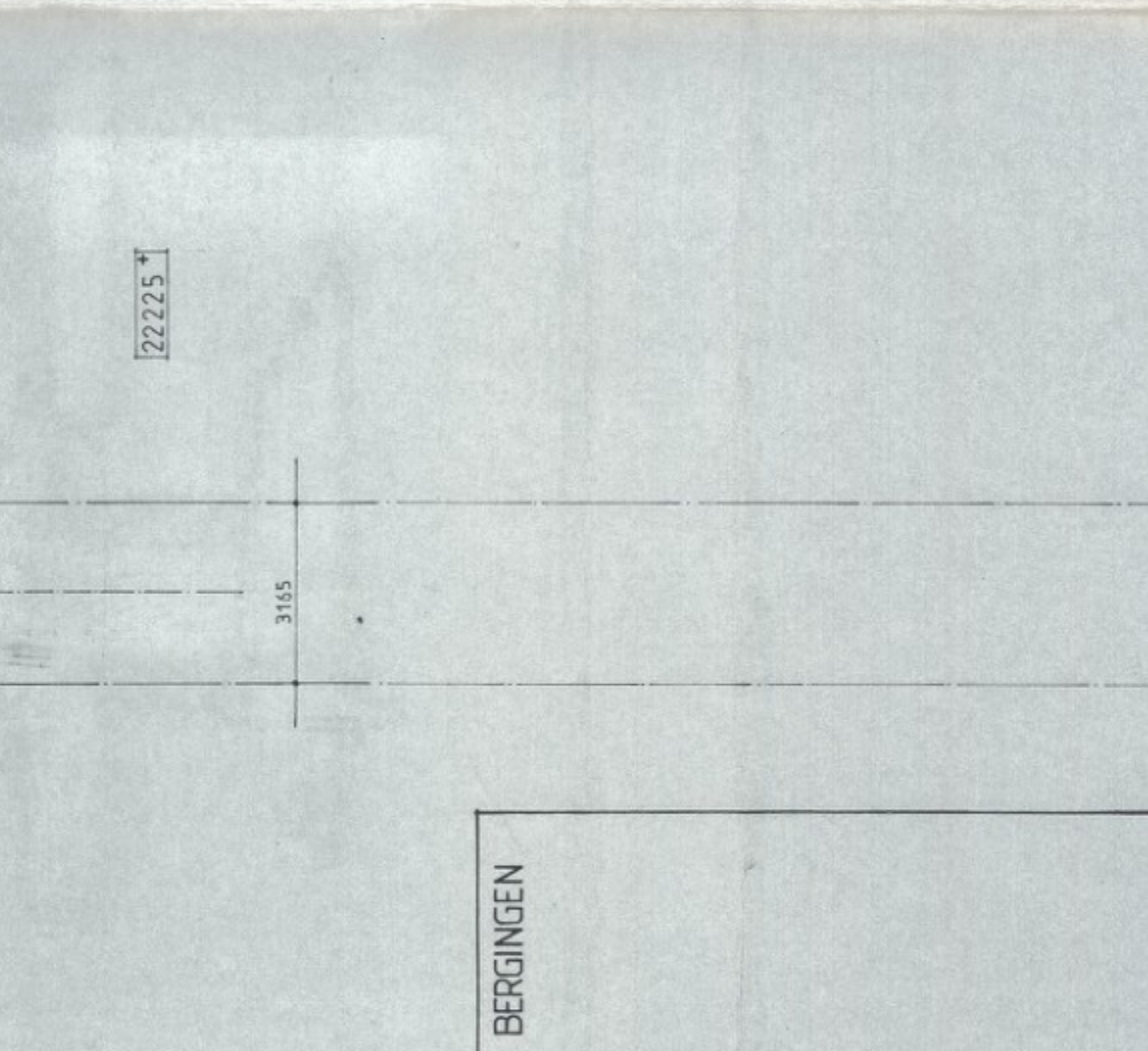
4e VERDIEPING



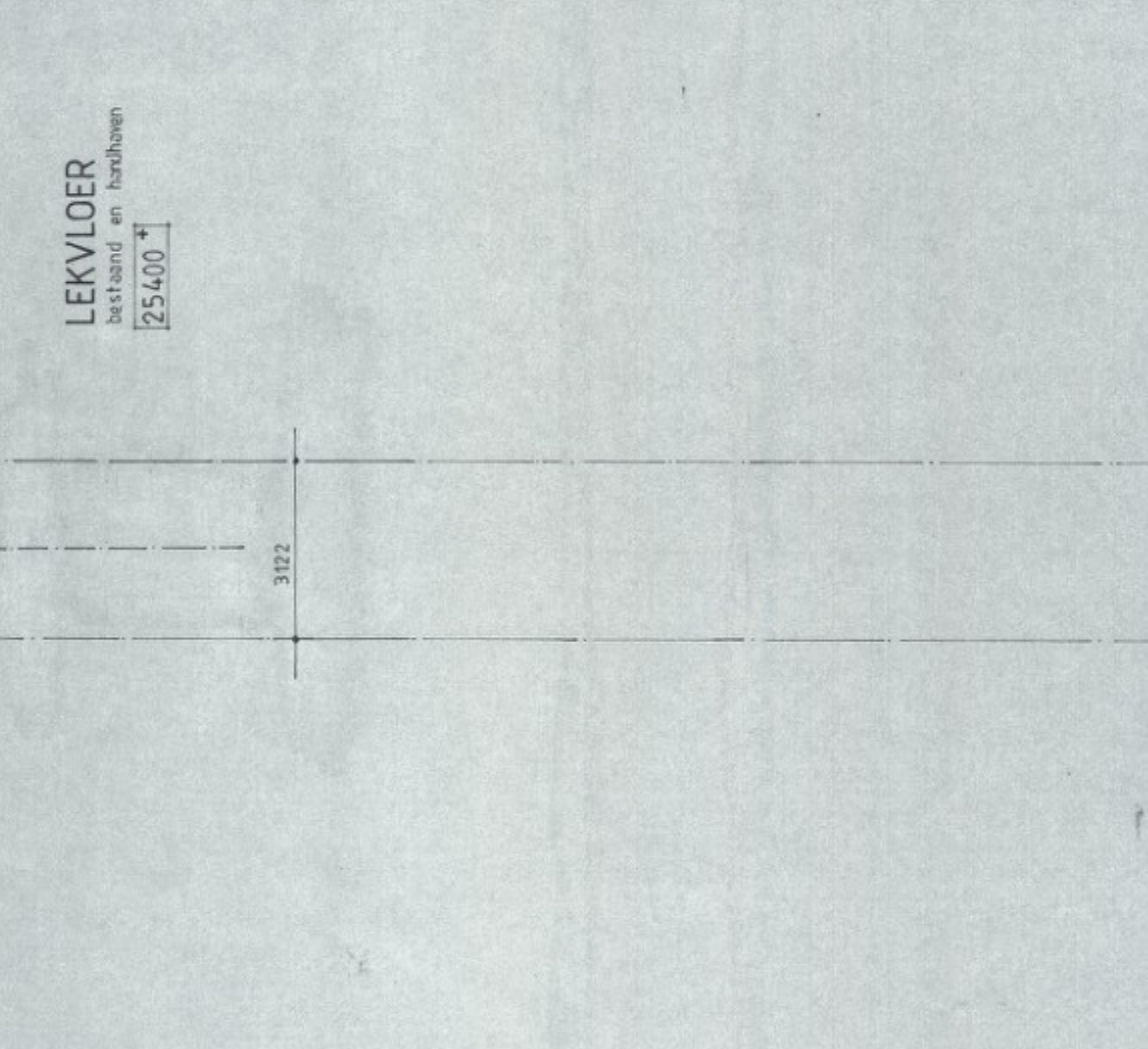
BEGANE GROND



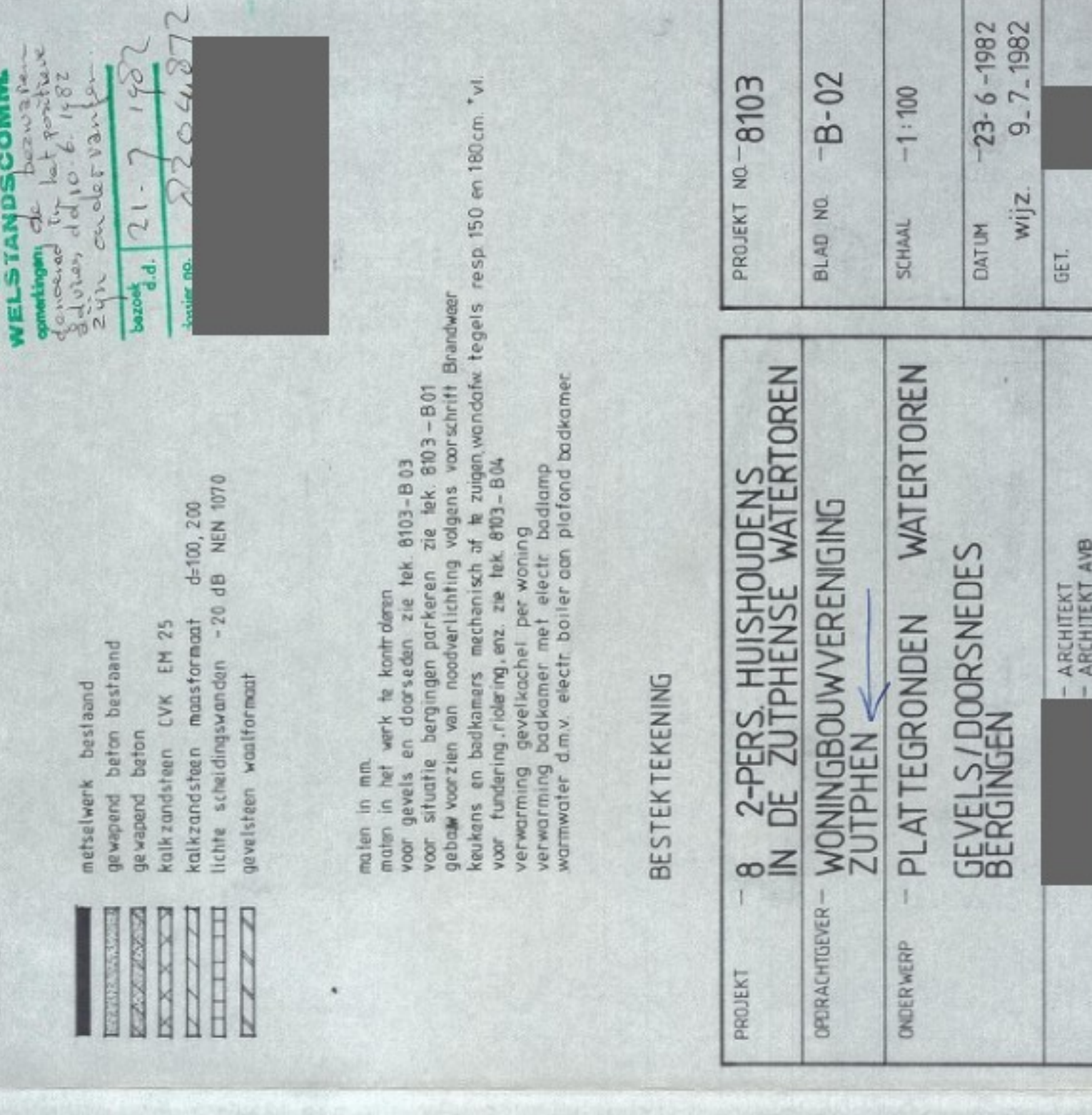
1e VERDIEPING



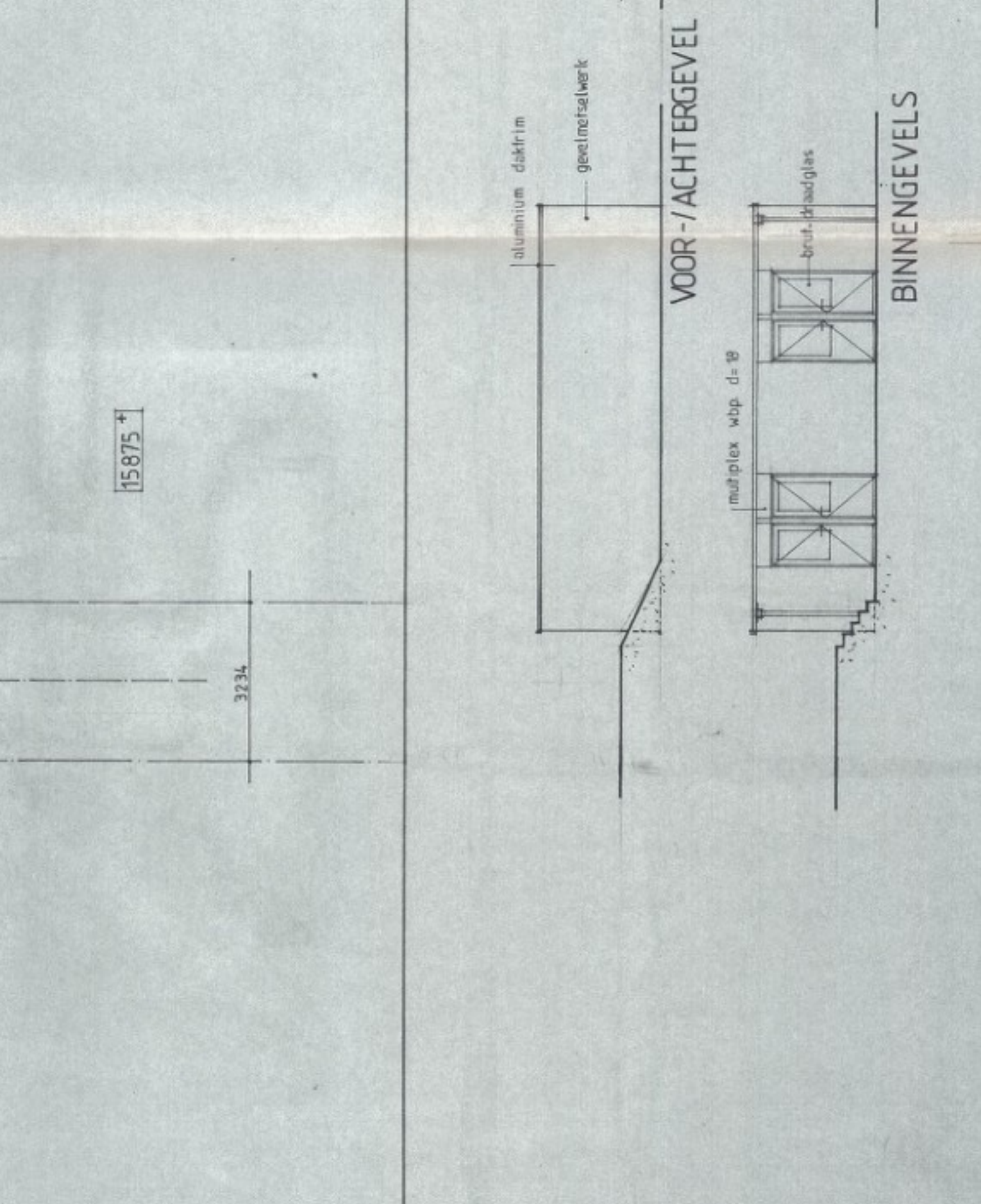
2e VERDIEPING



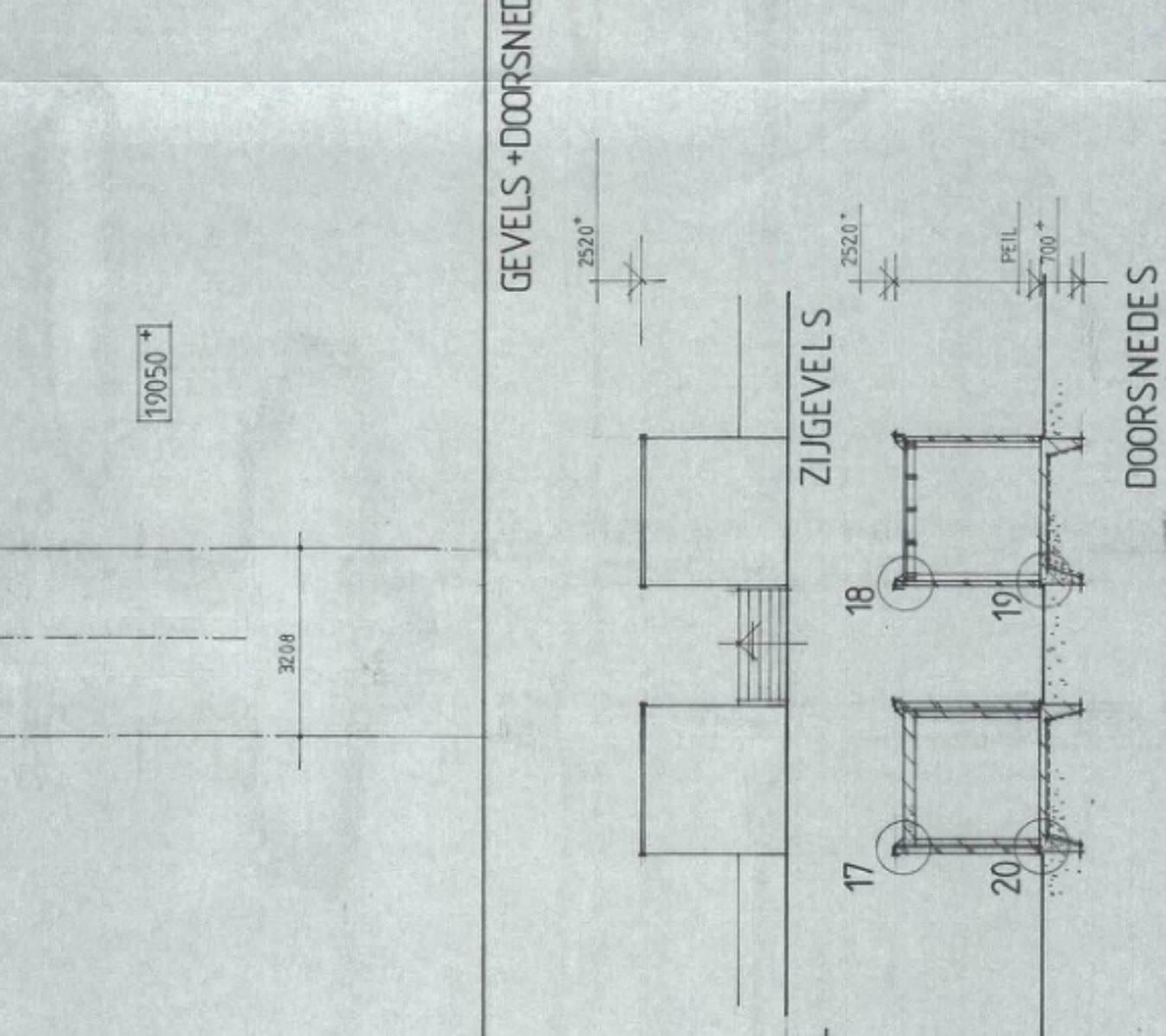
3e VERDIEPING



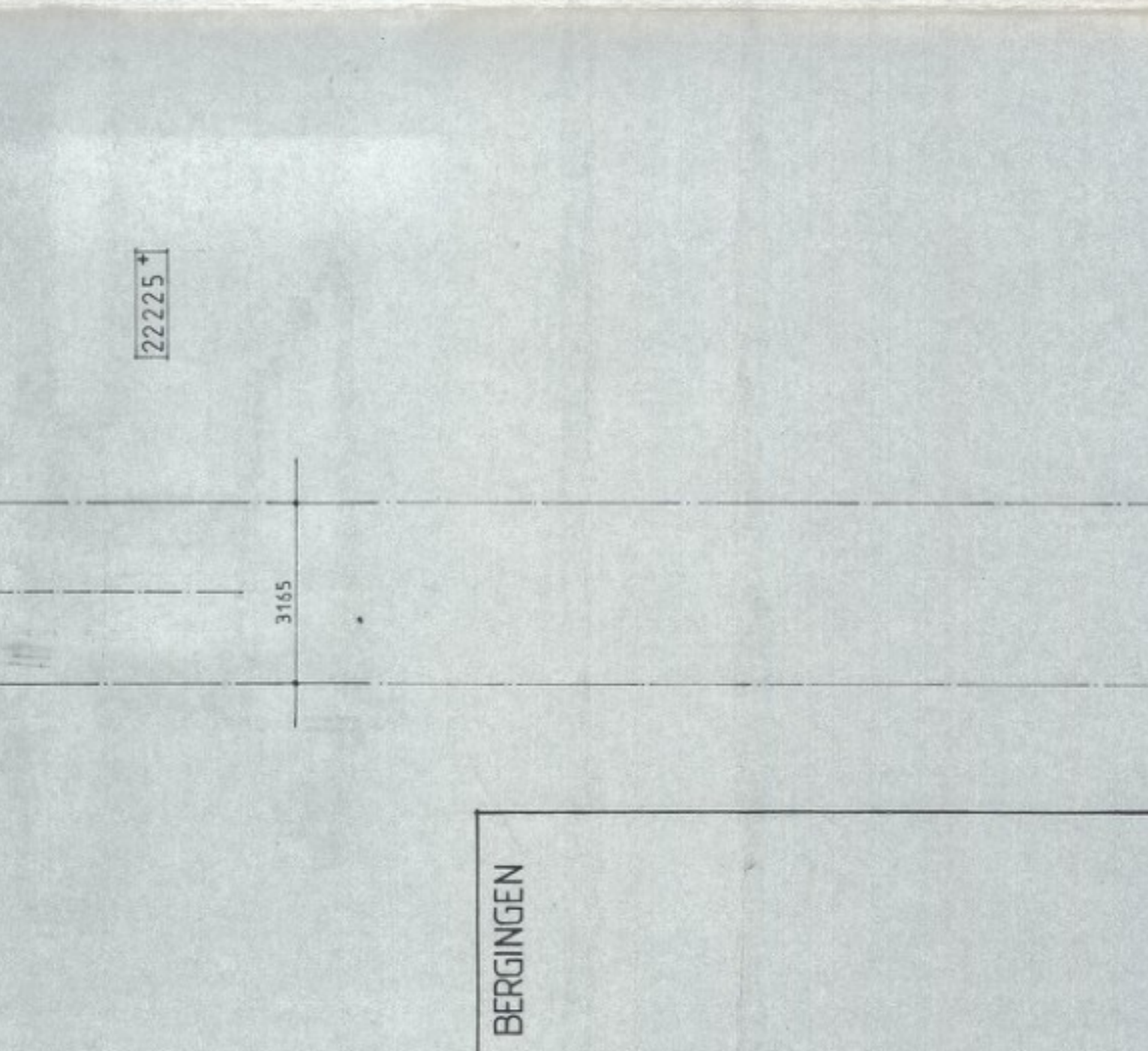
4e VERDIEPING



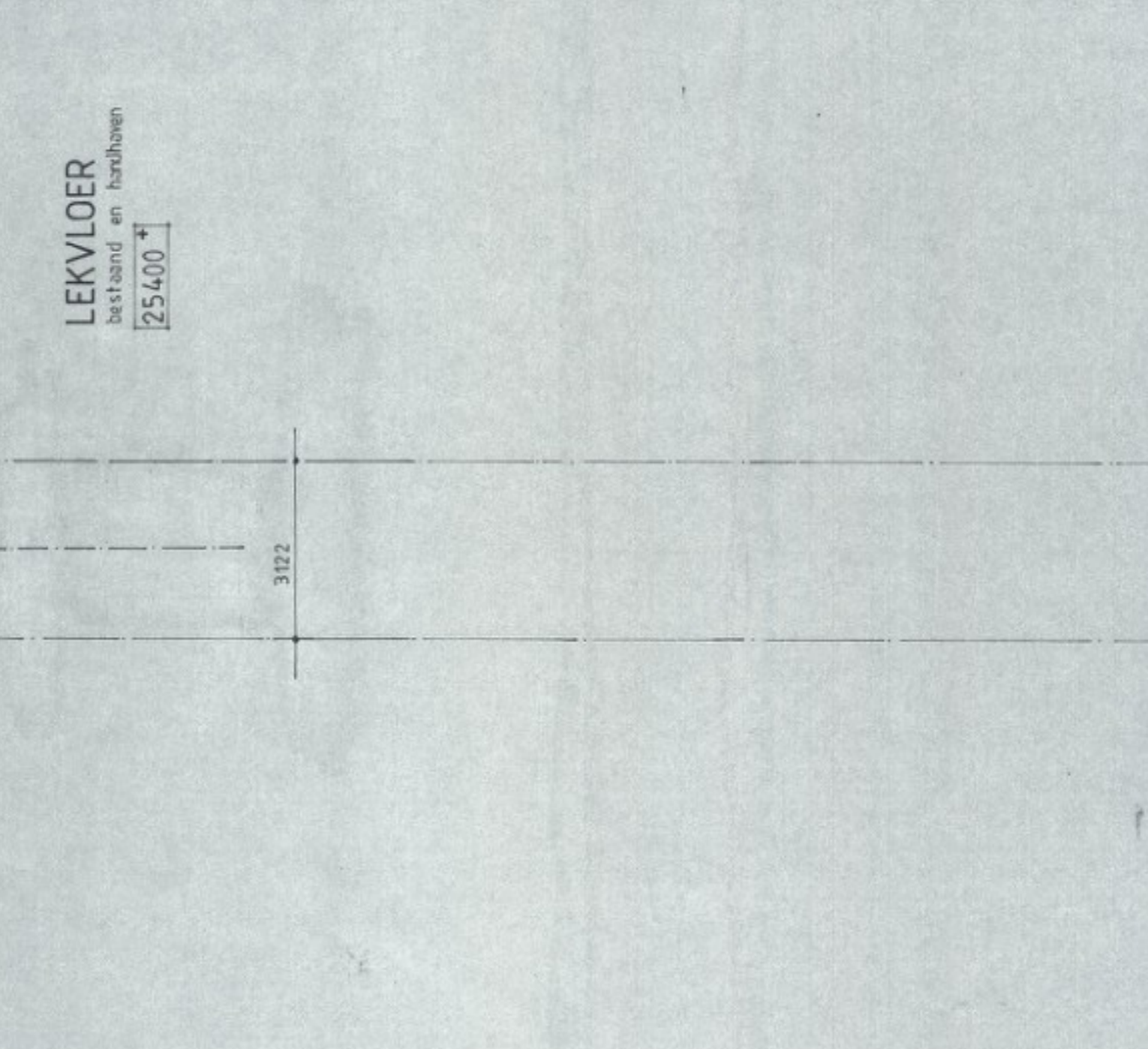
BEGANE GROND



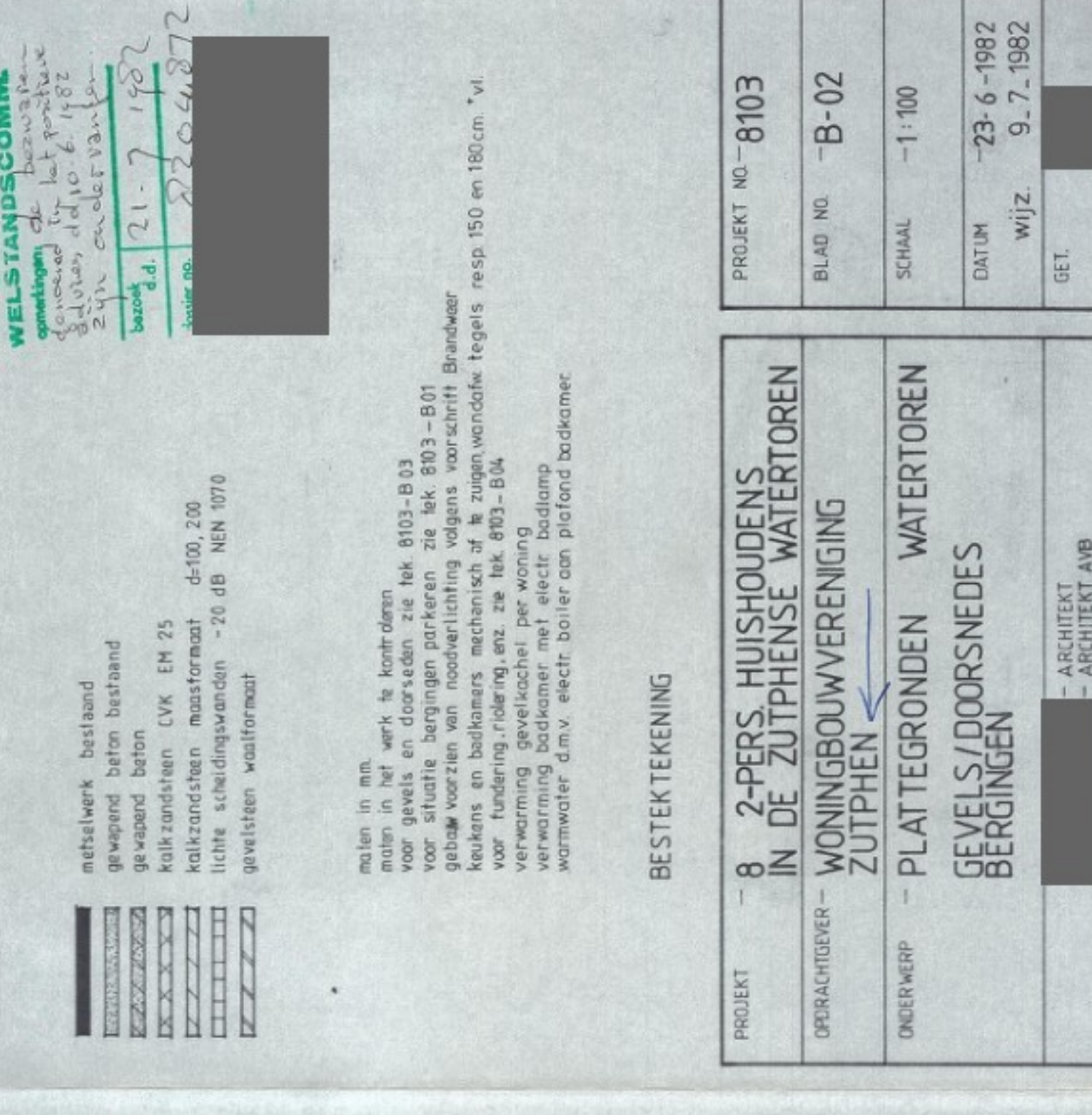
1e VERDIEPING



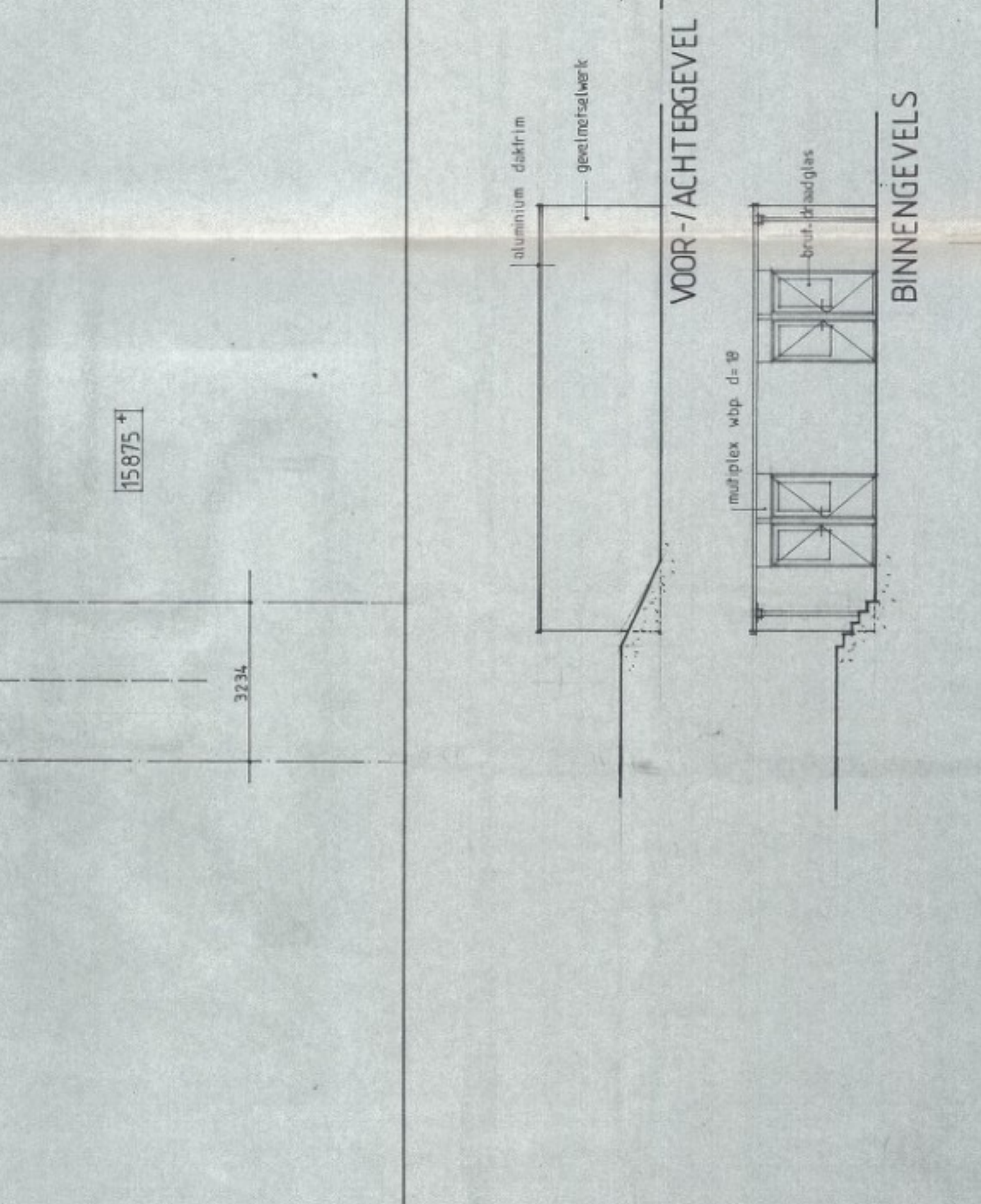
2e VERDIEPING



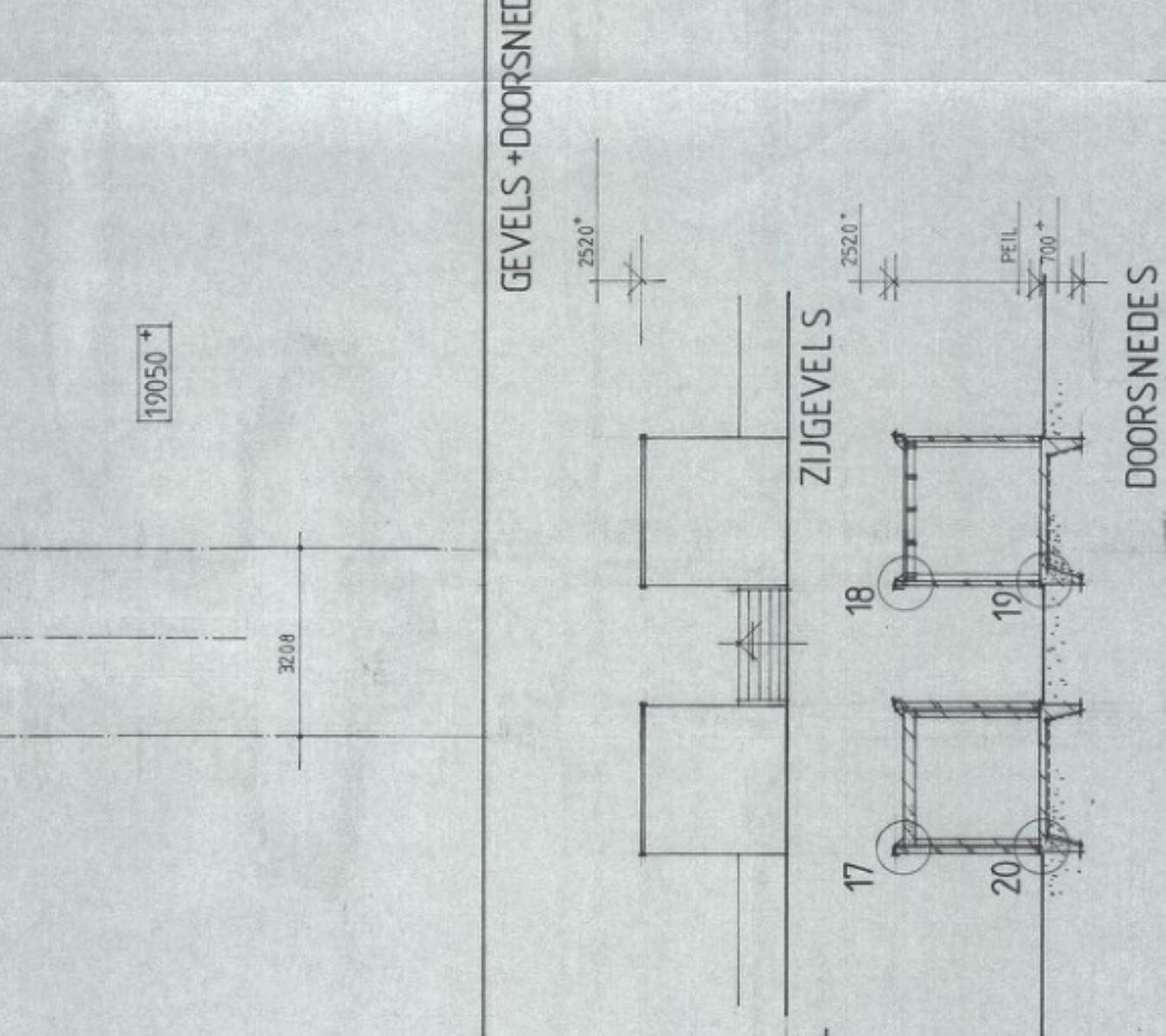
3e VERDIEPING



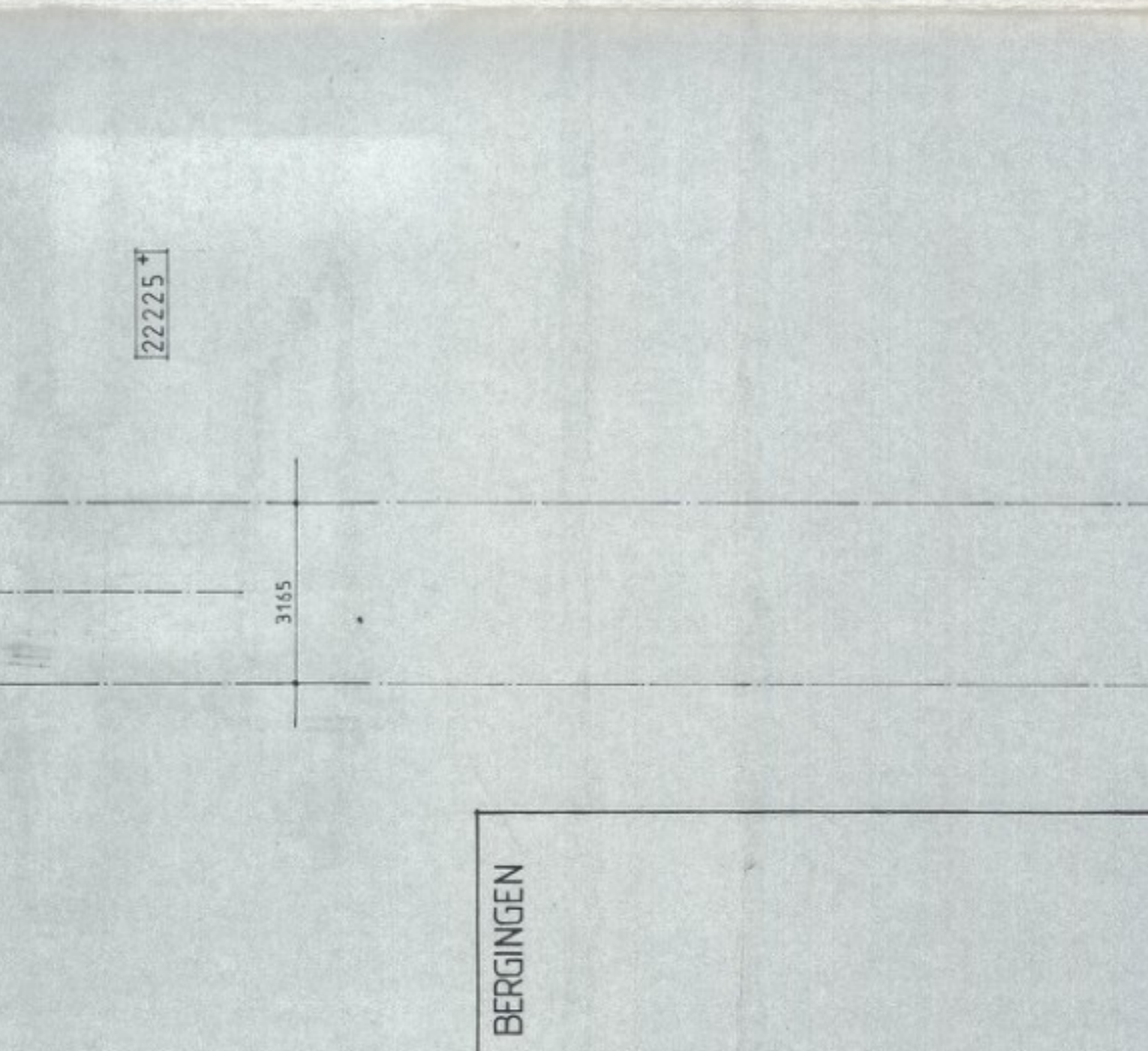
4e VERDIEPING



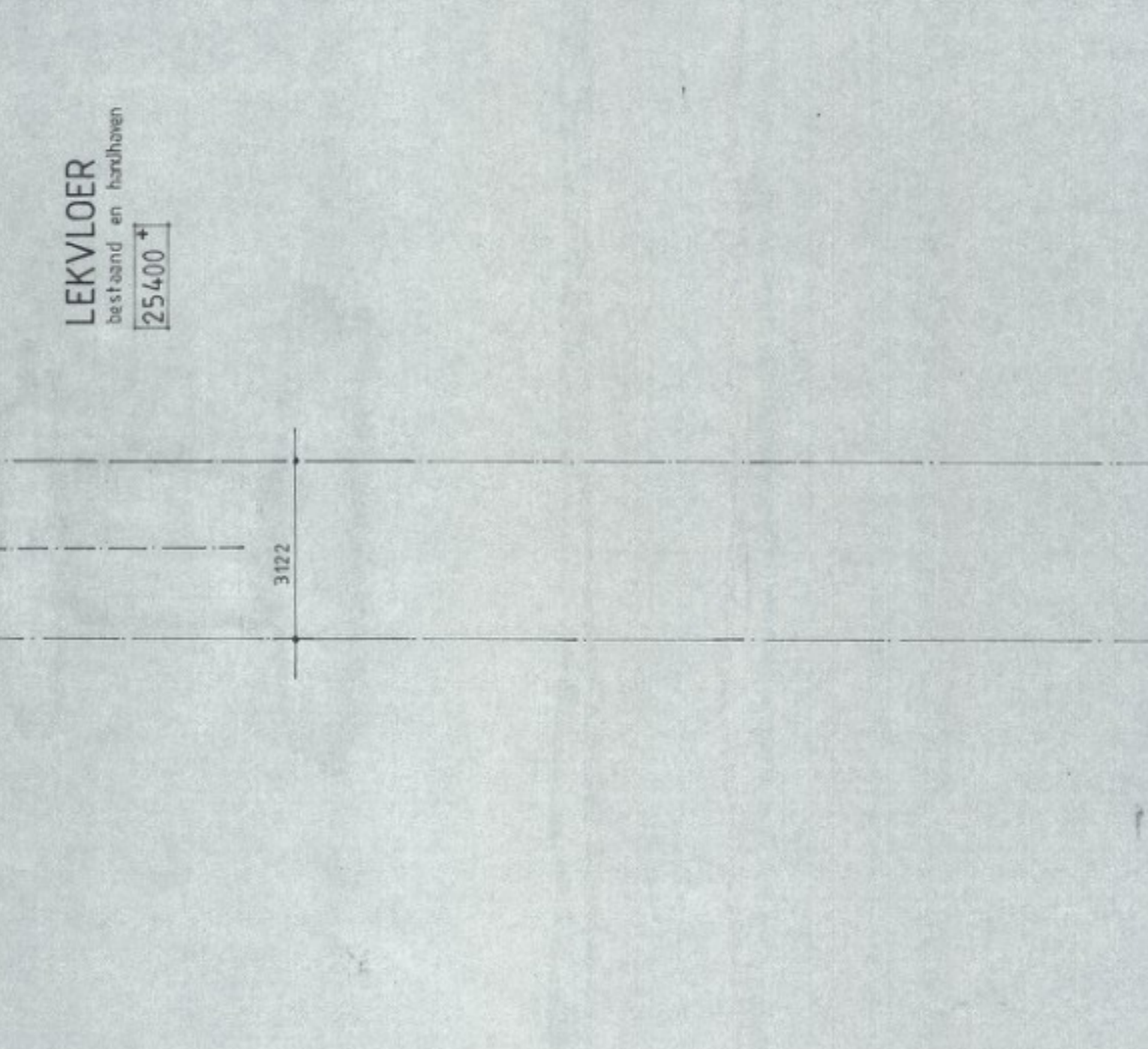
BEGANE GROND



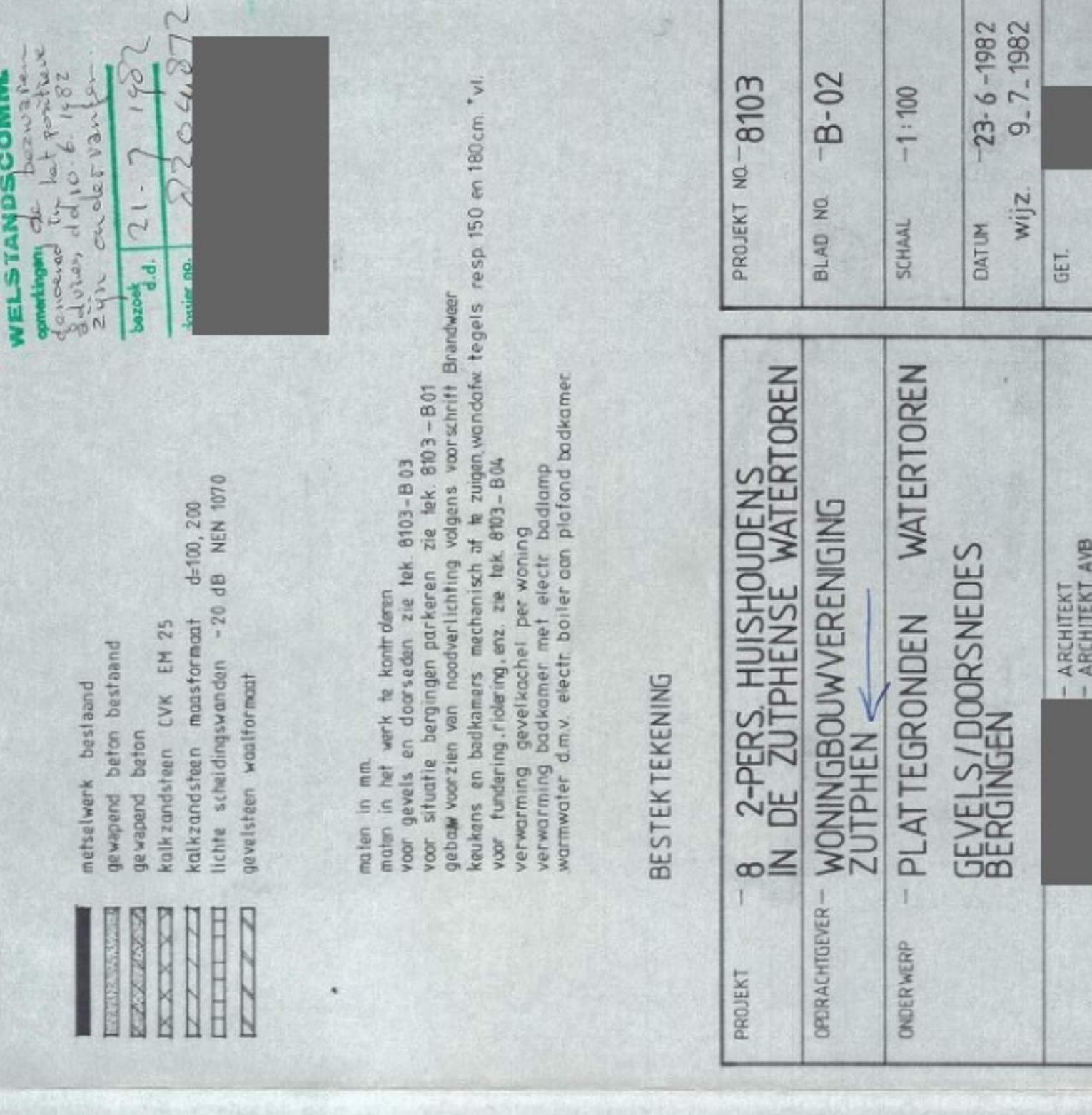
1e VERDIEPING



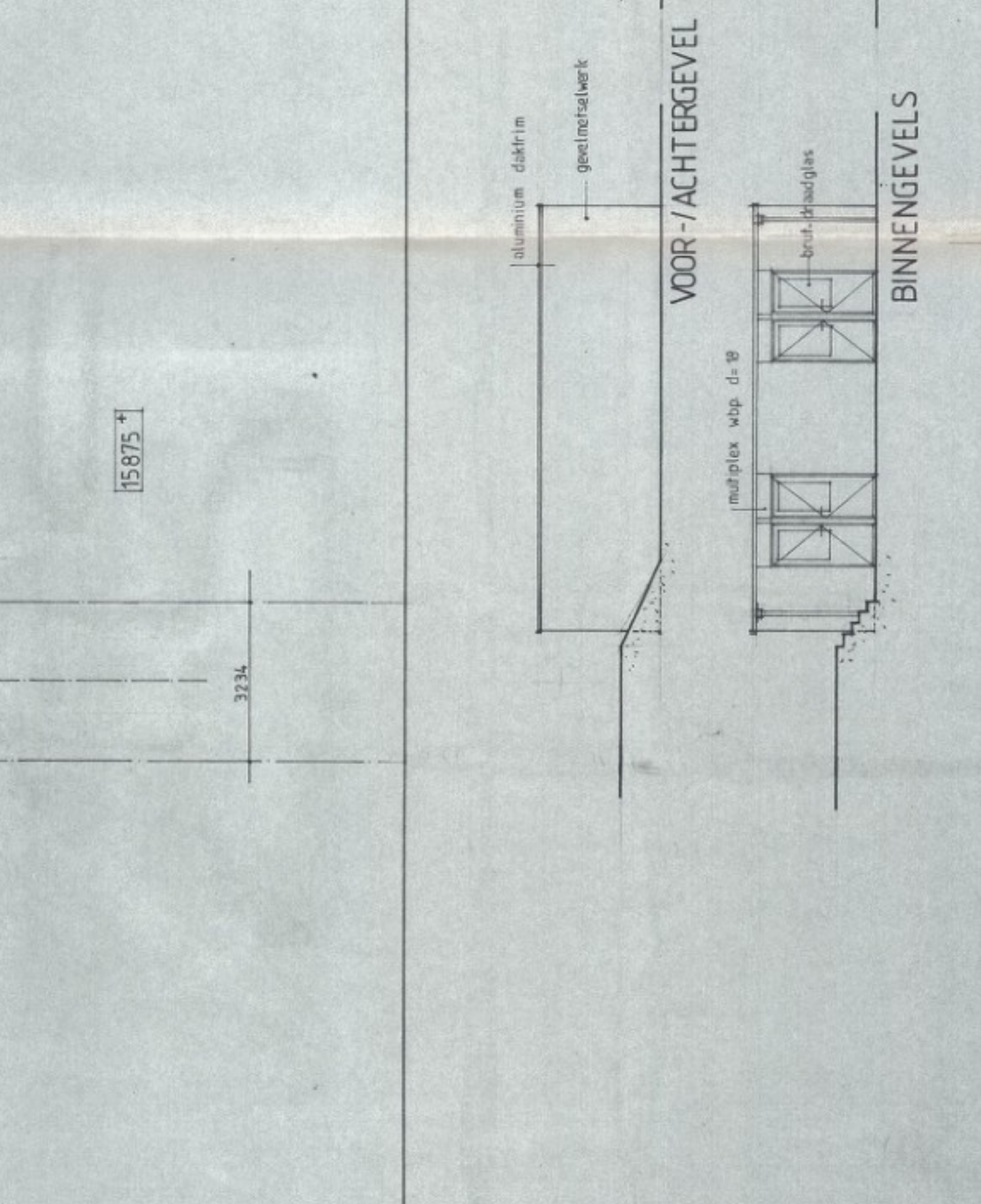
2e VERDIEPING



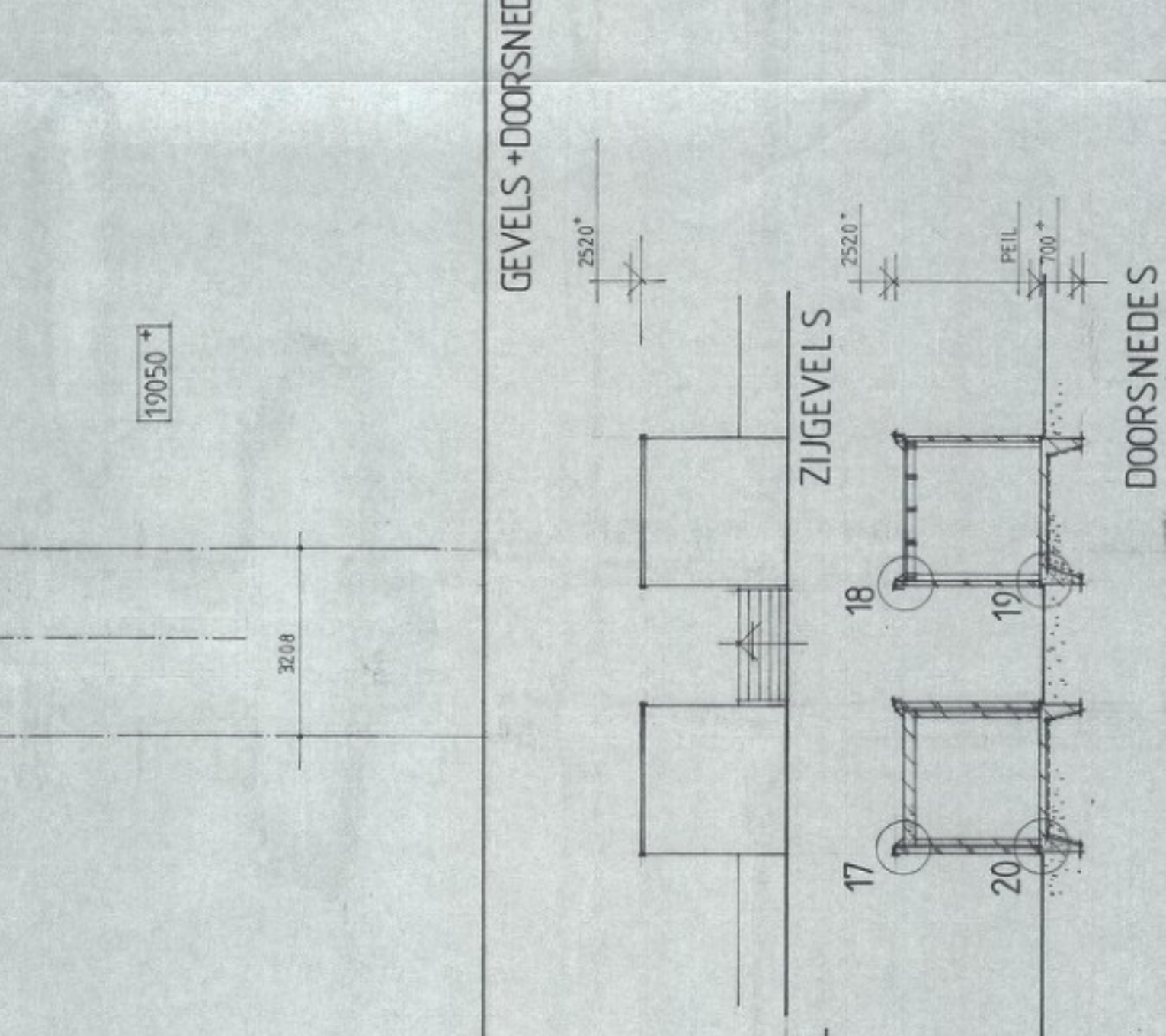
3e VERDIEPING



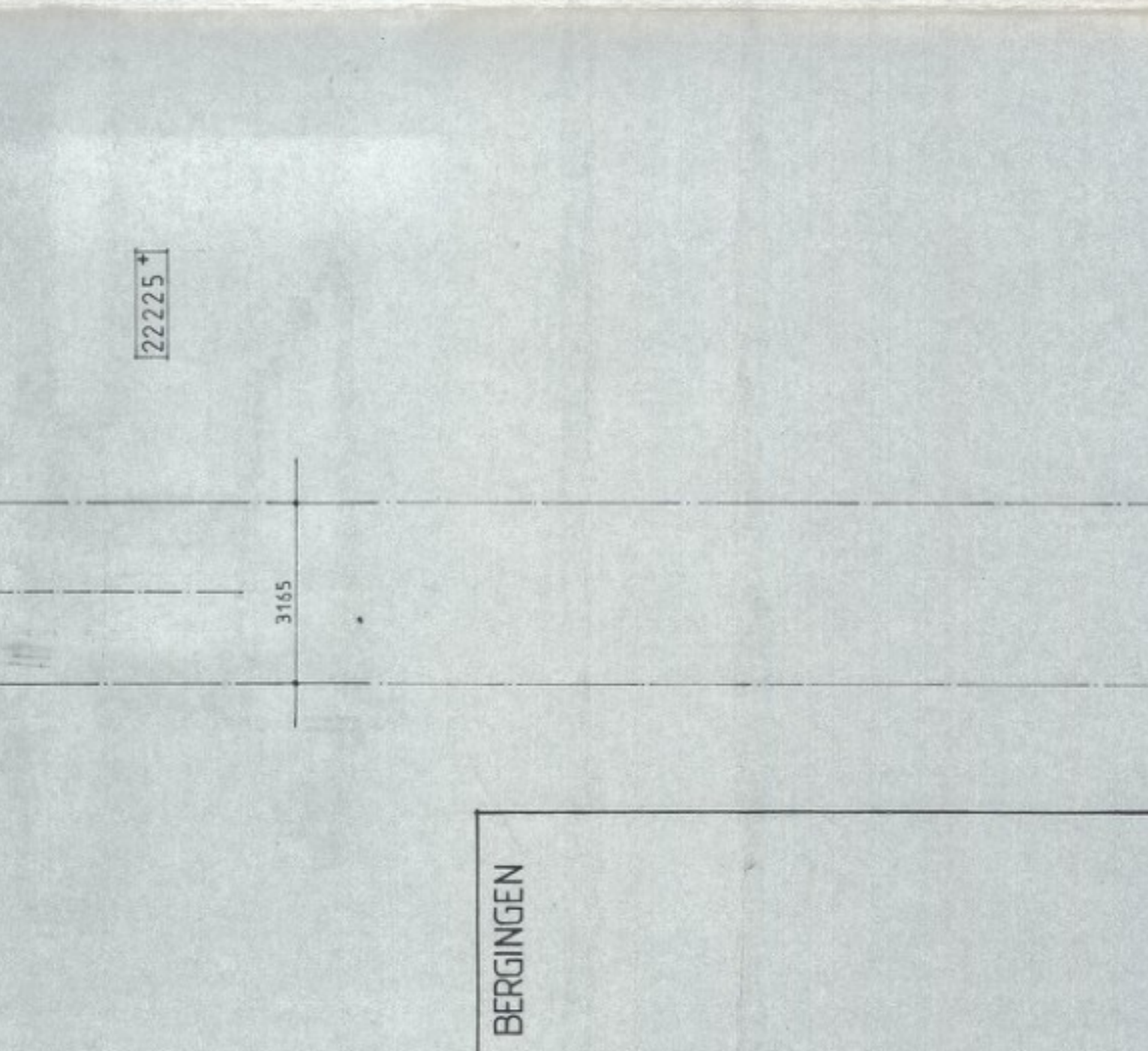
4e VERDIEPING



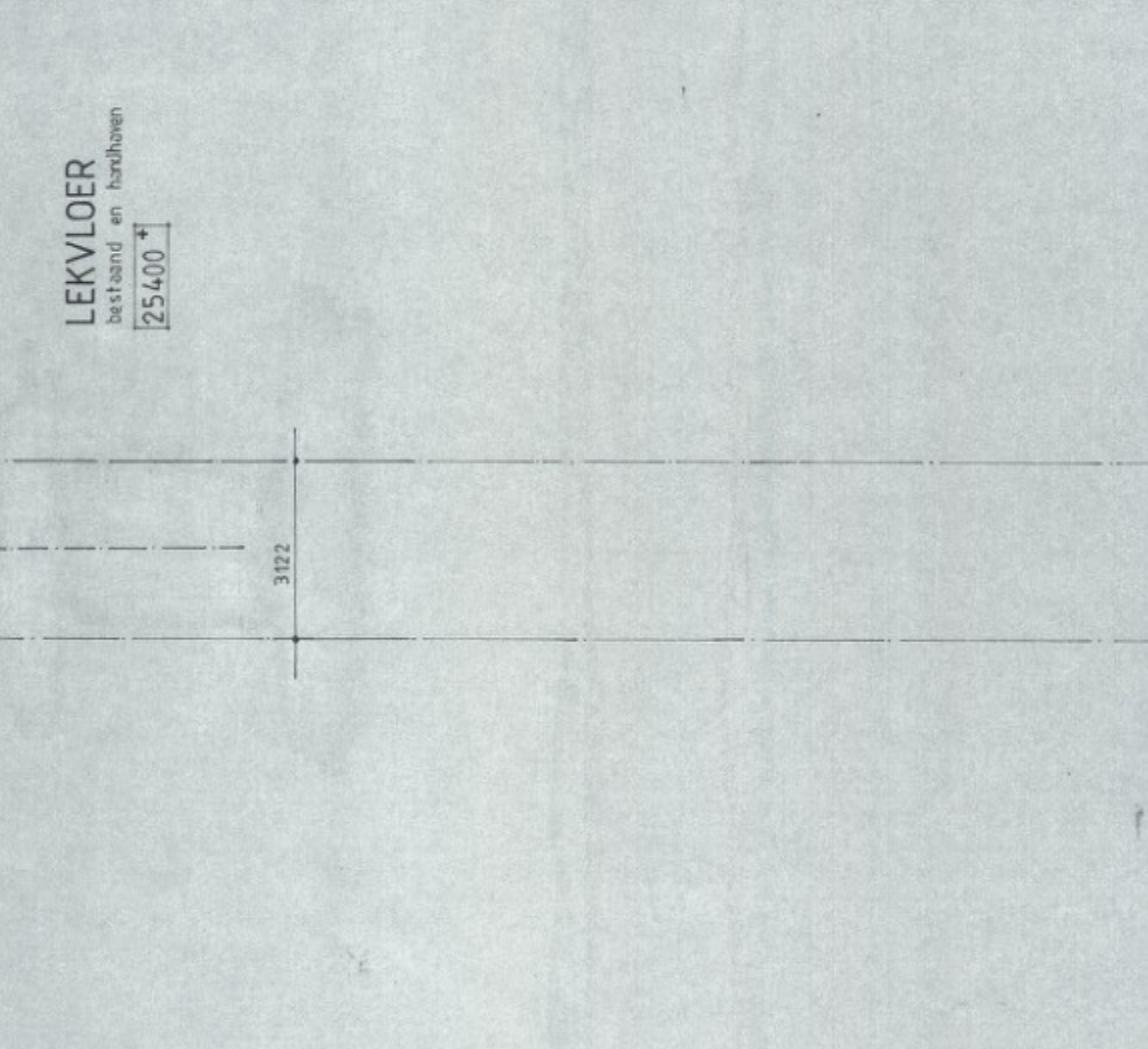
BEGANE GROND



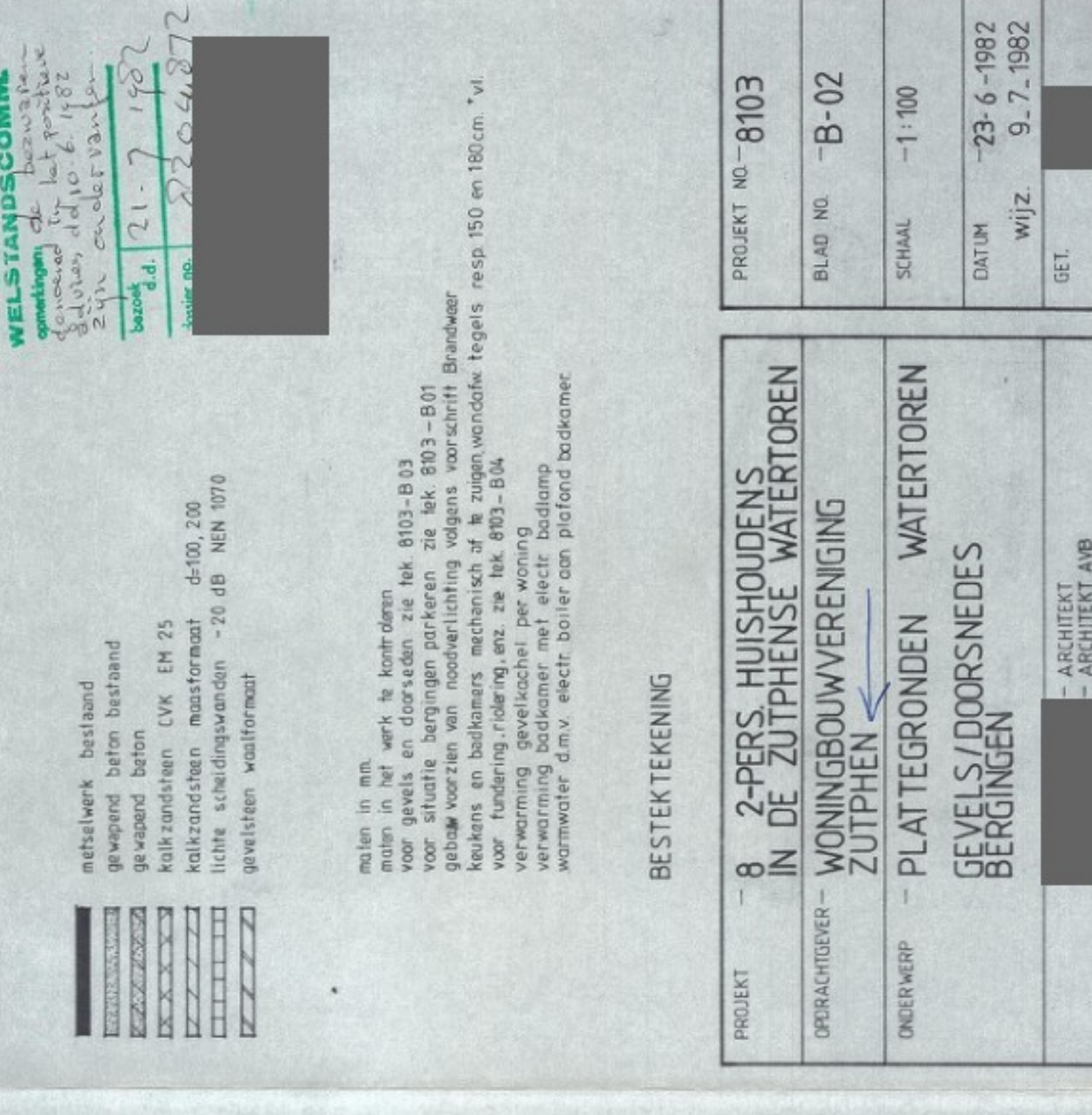
1e VERDIEPING



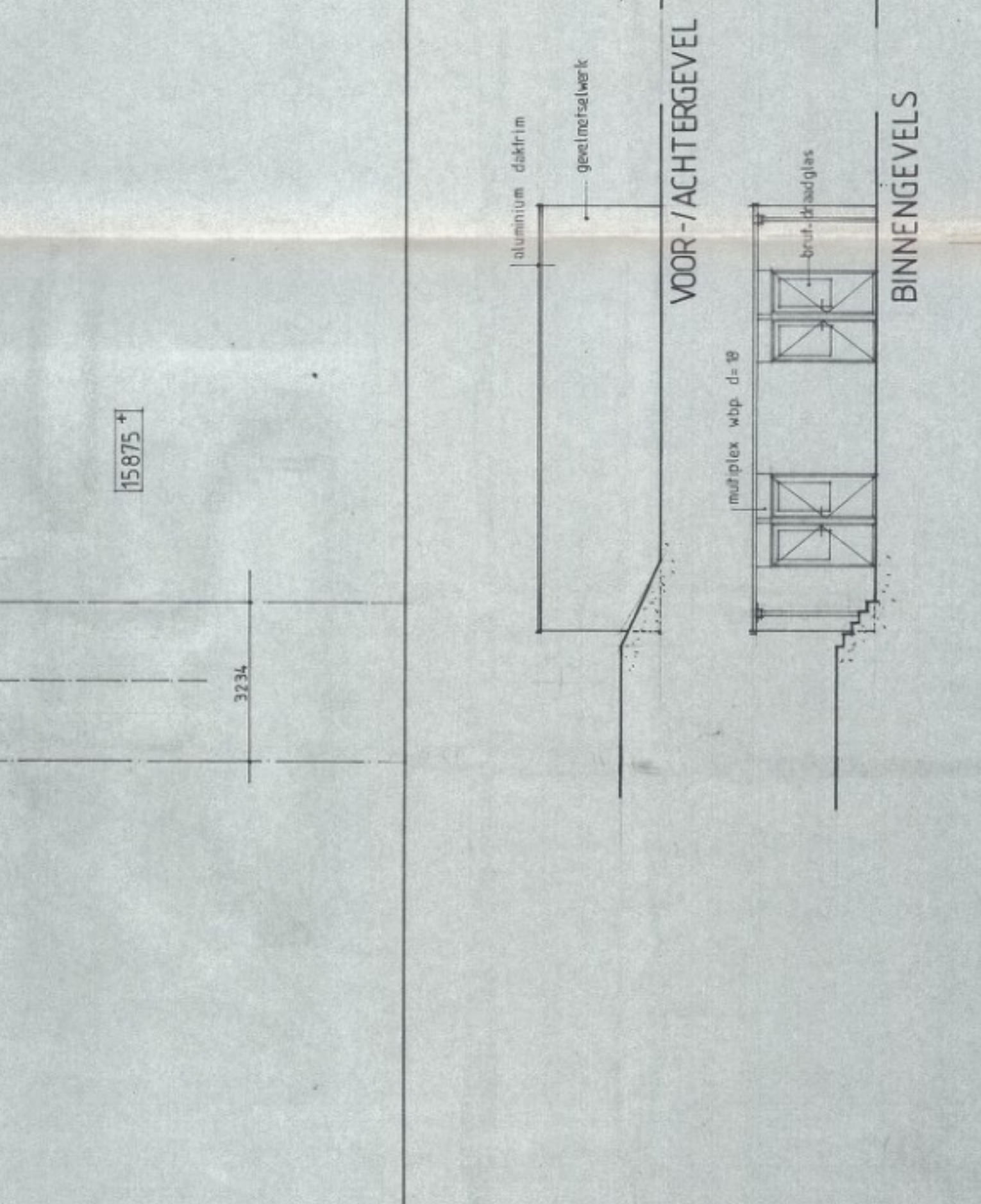
2e VERDIEPING



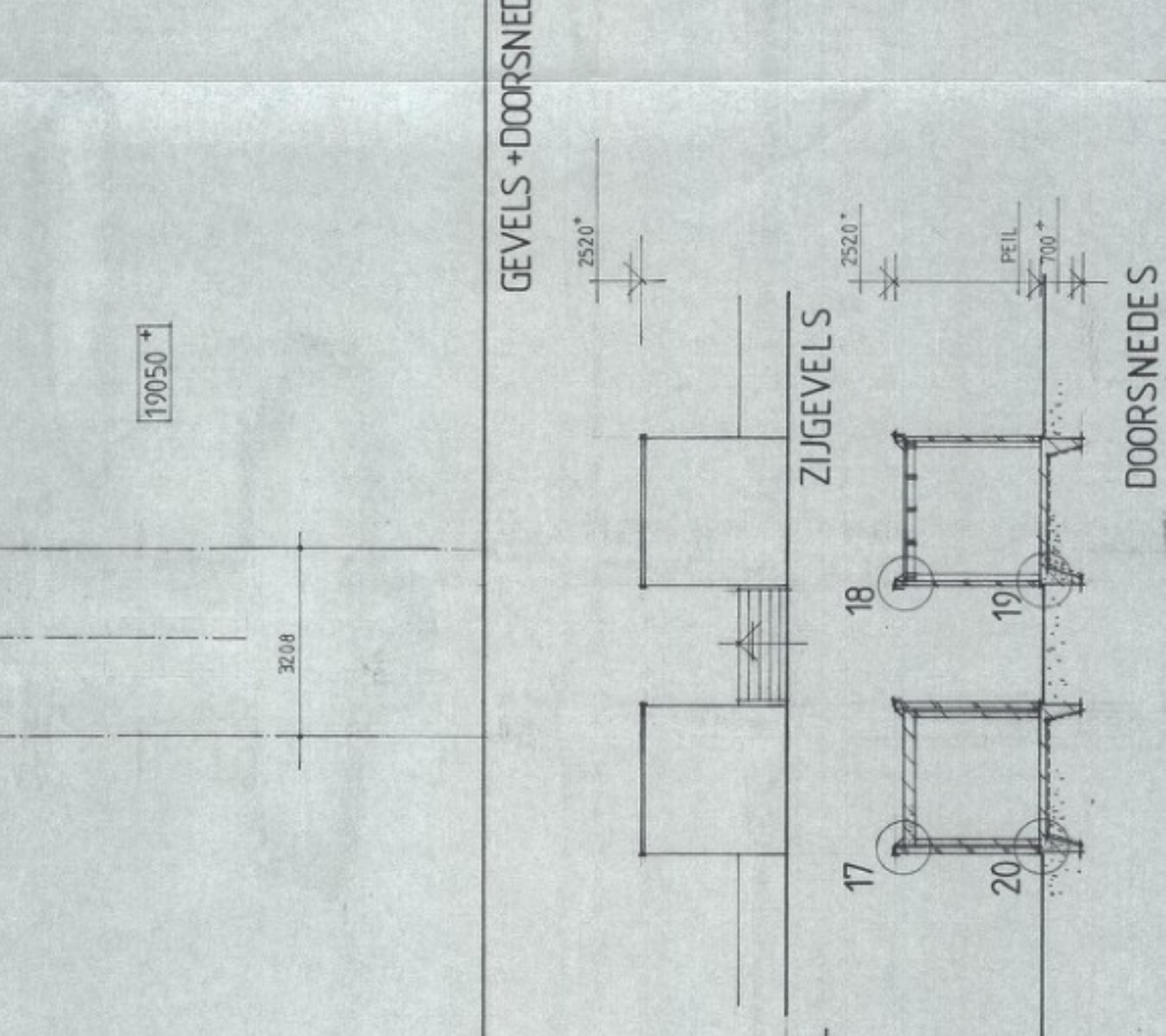
3e VERDIEPING



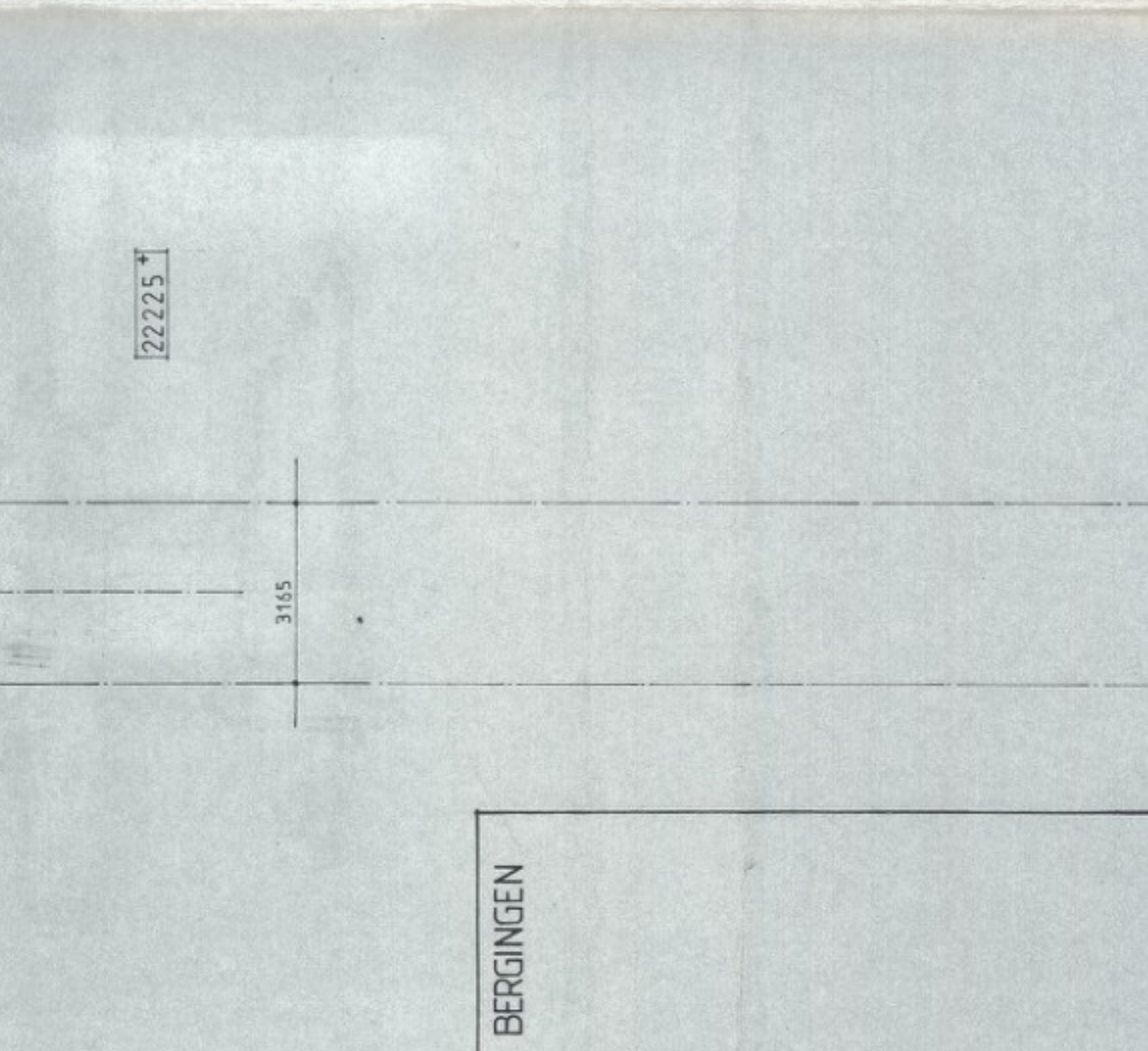
4e VERDIEPING



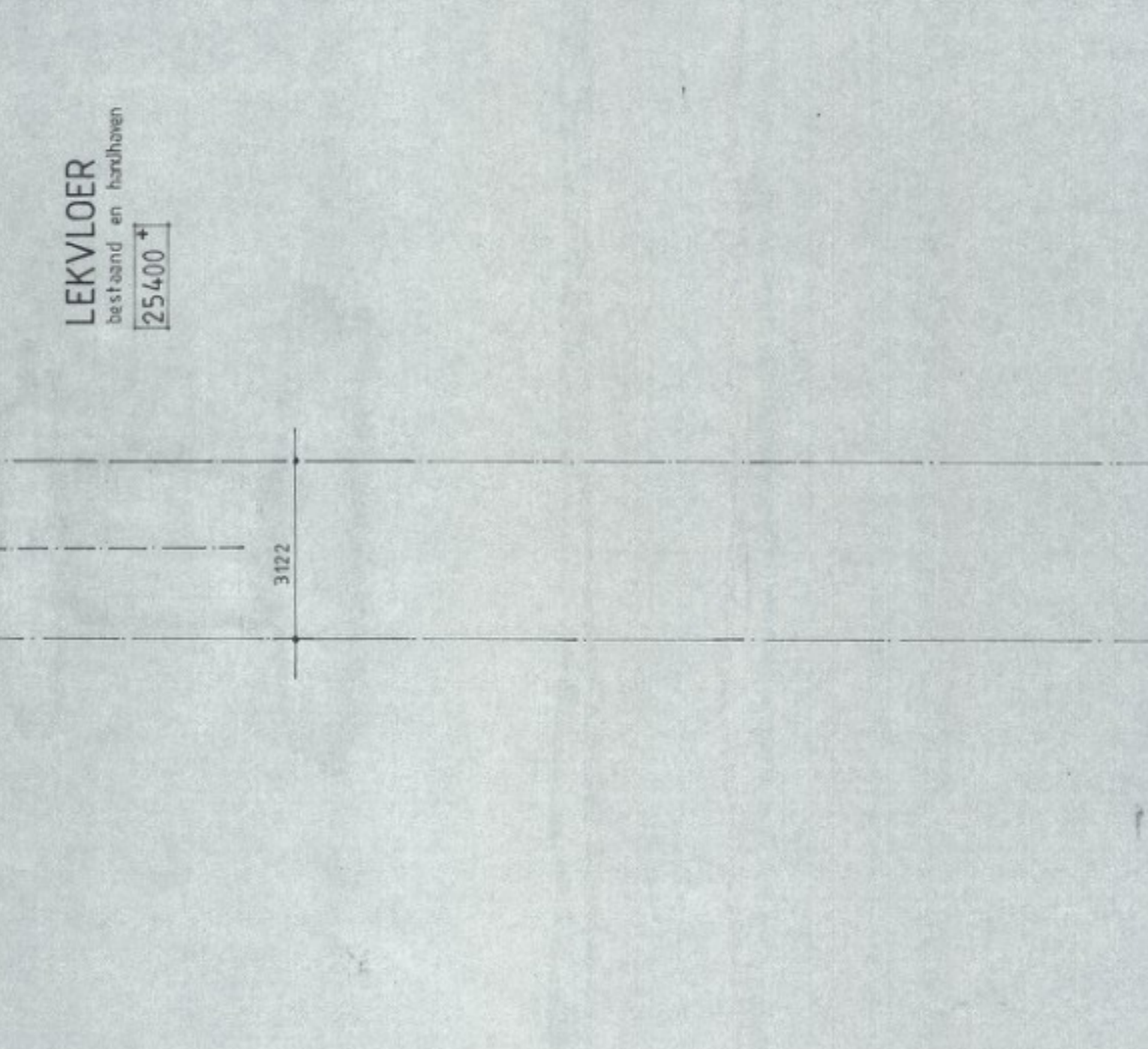
BEGANE GROND



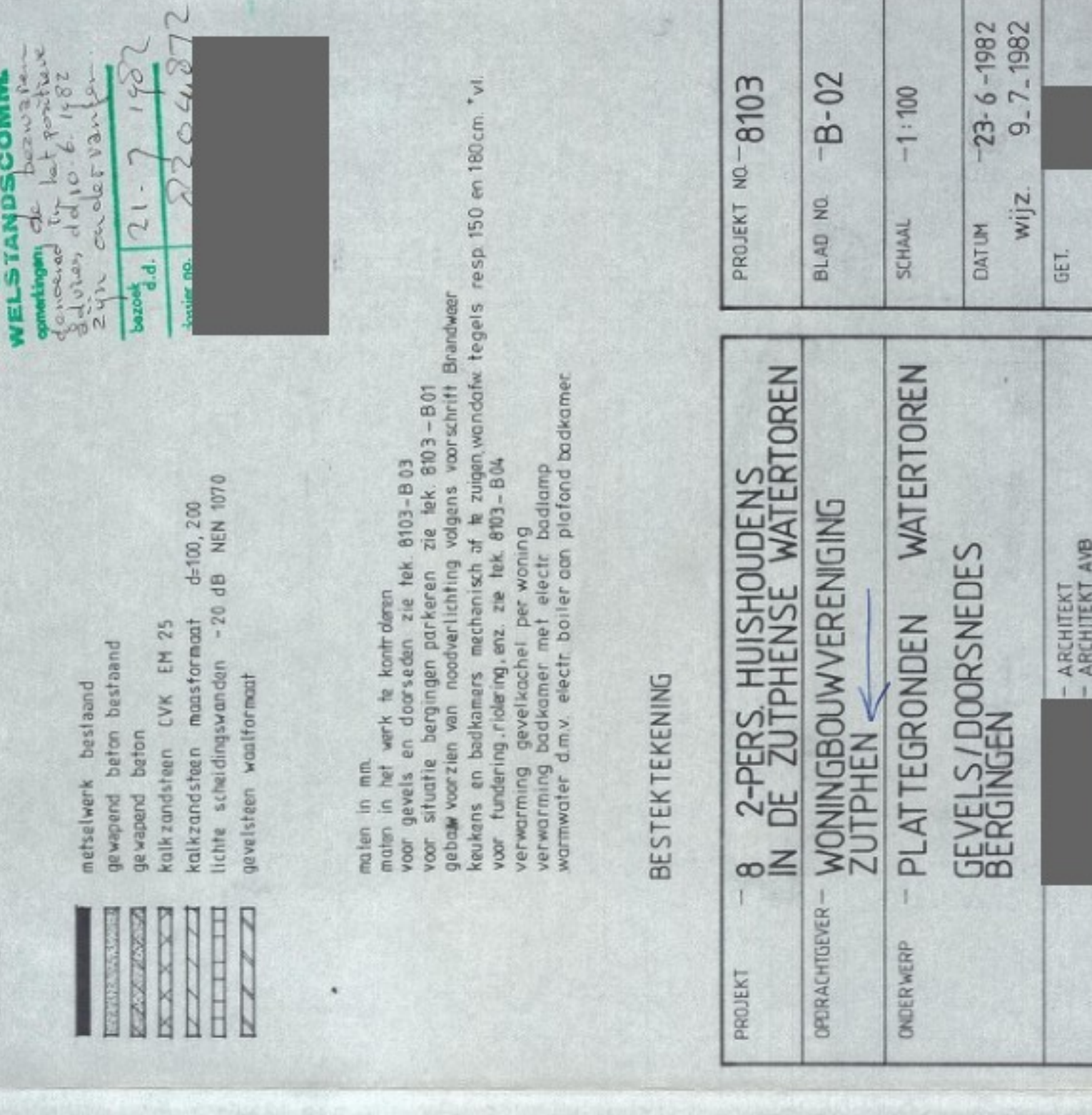
1e VERDIEPING



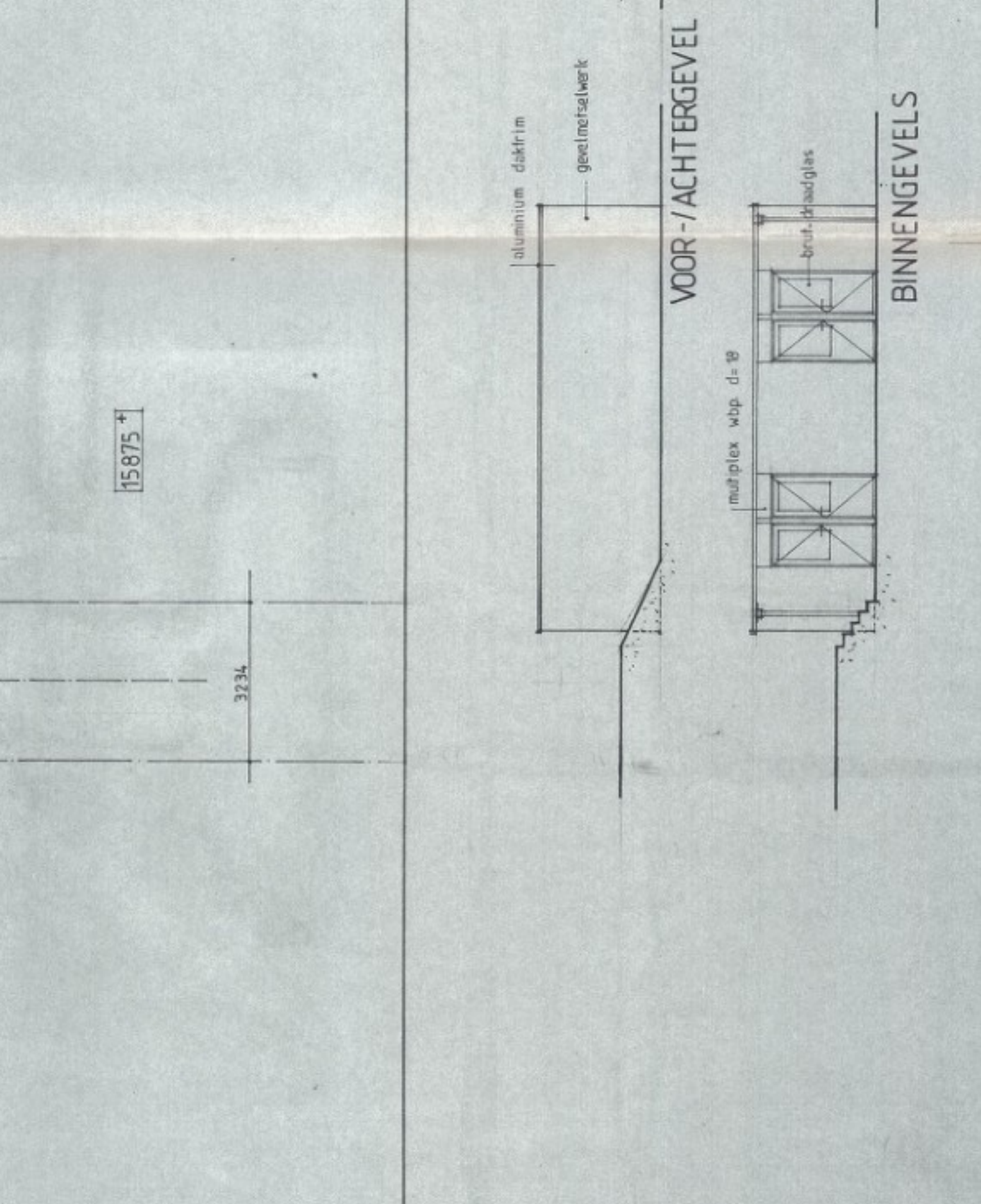
2e VERDIEPING



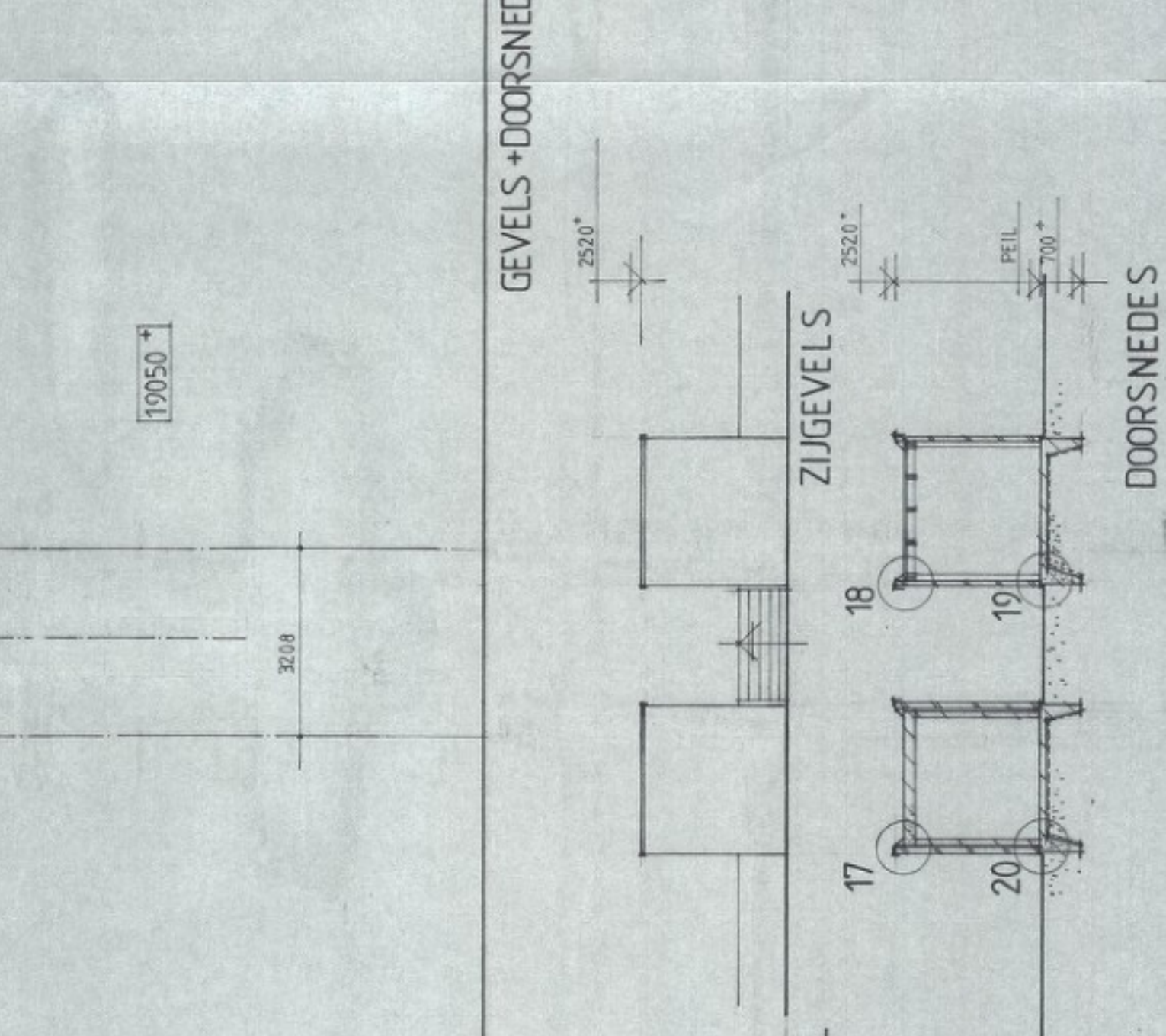
3e VERDIEPING



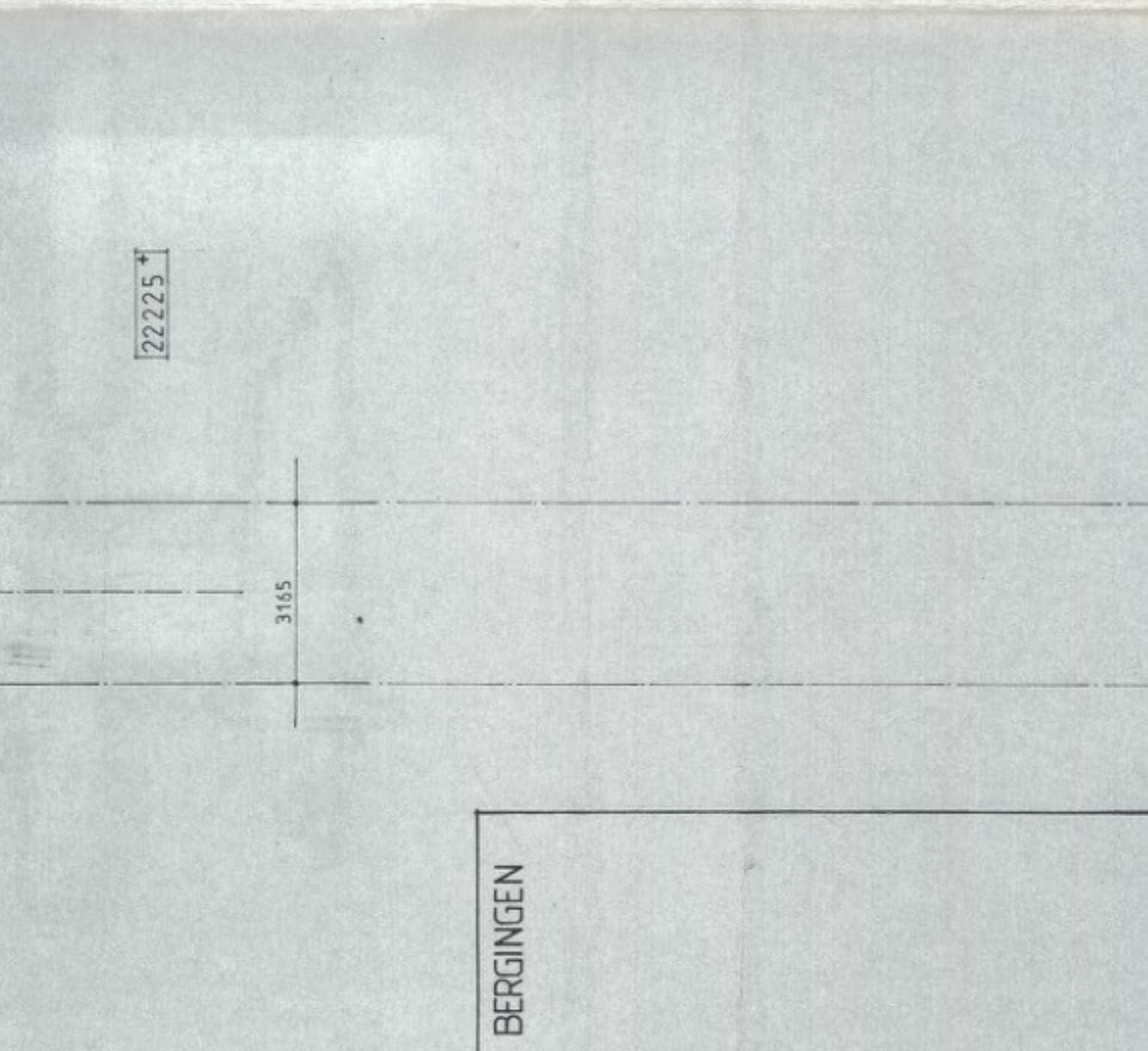
4e VERDIEPING



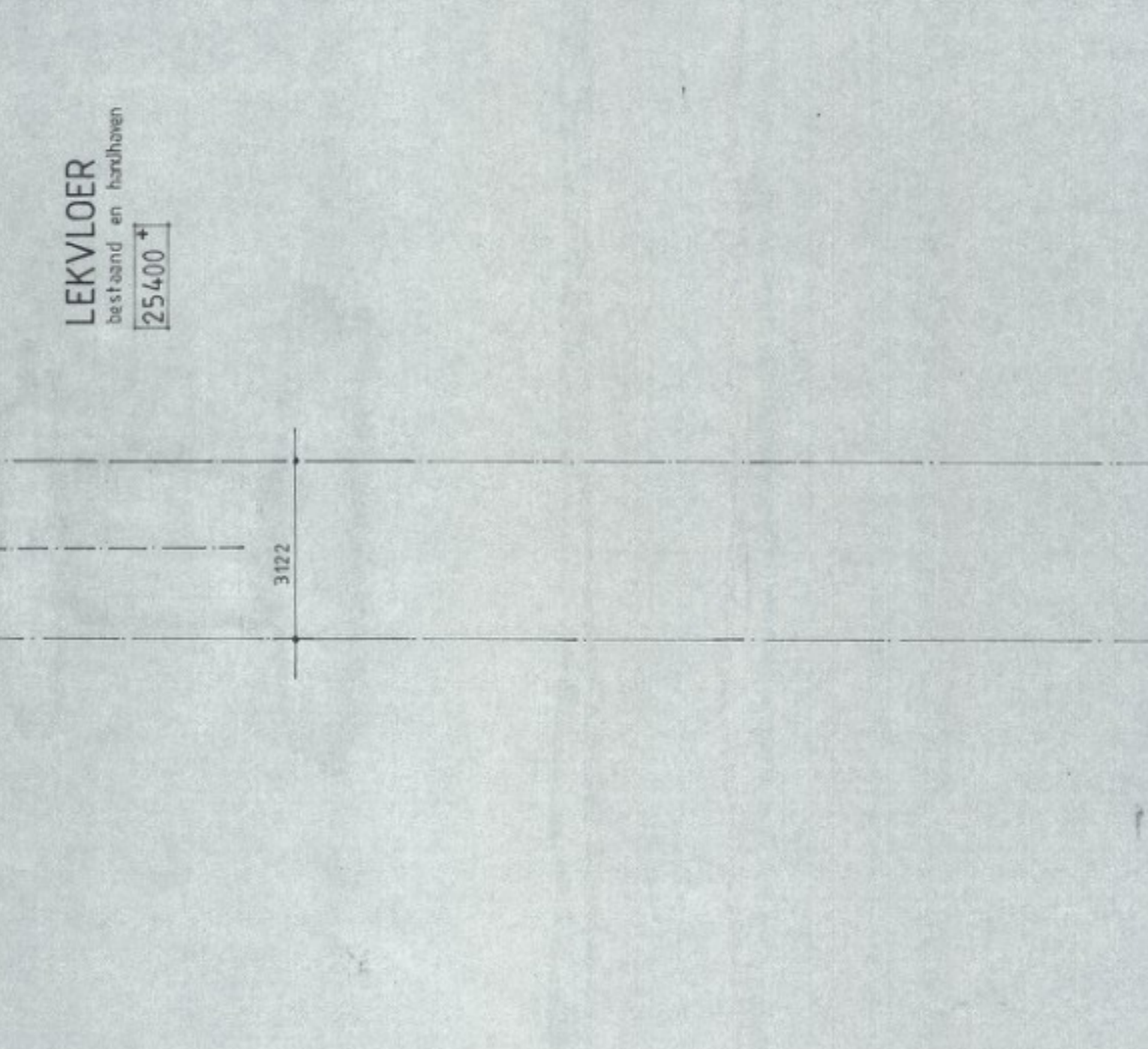
BEGANE GROND



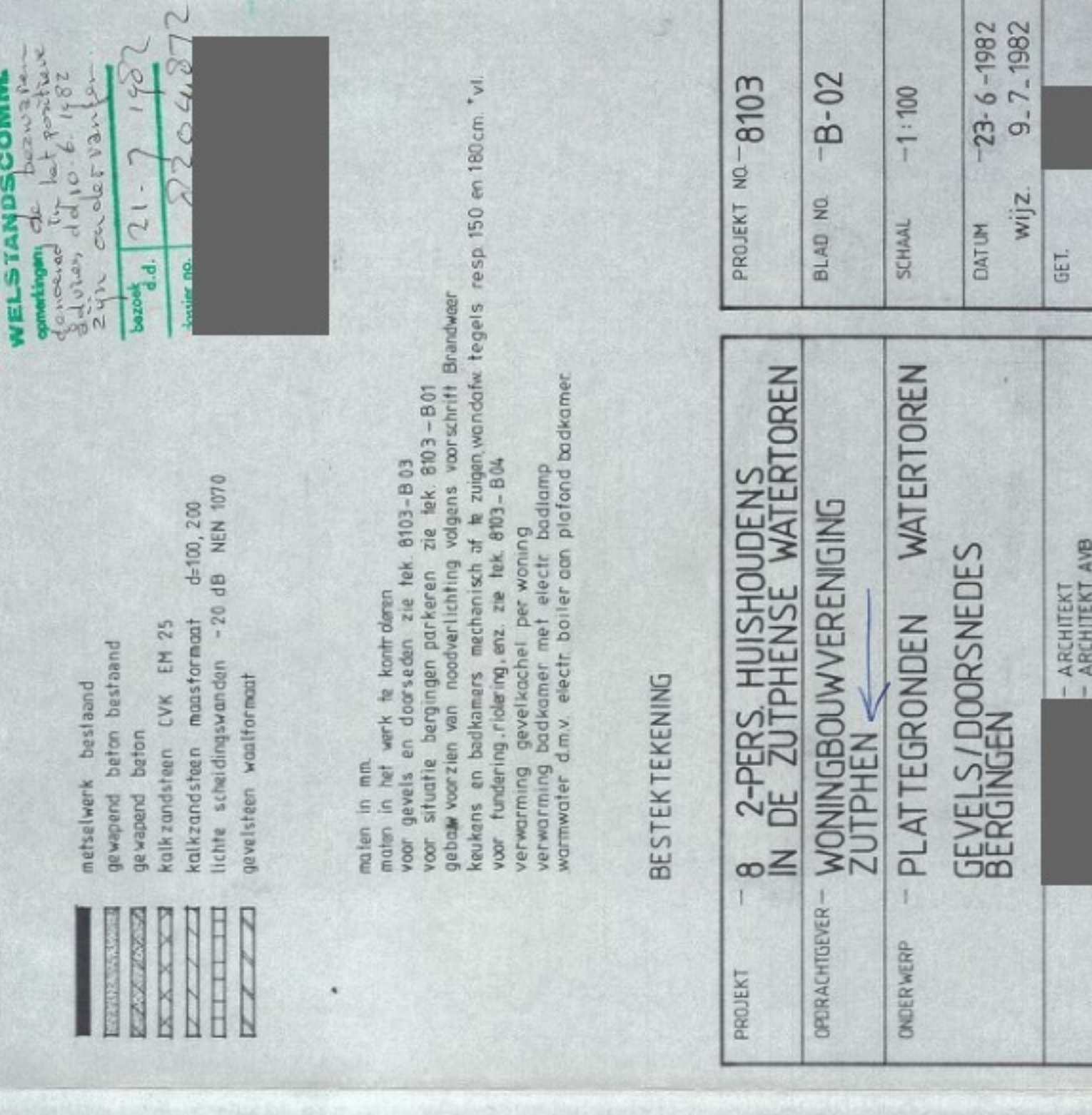
1e VERDIEPING



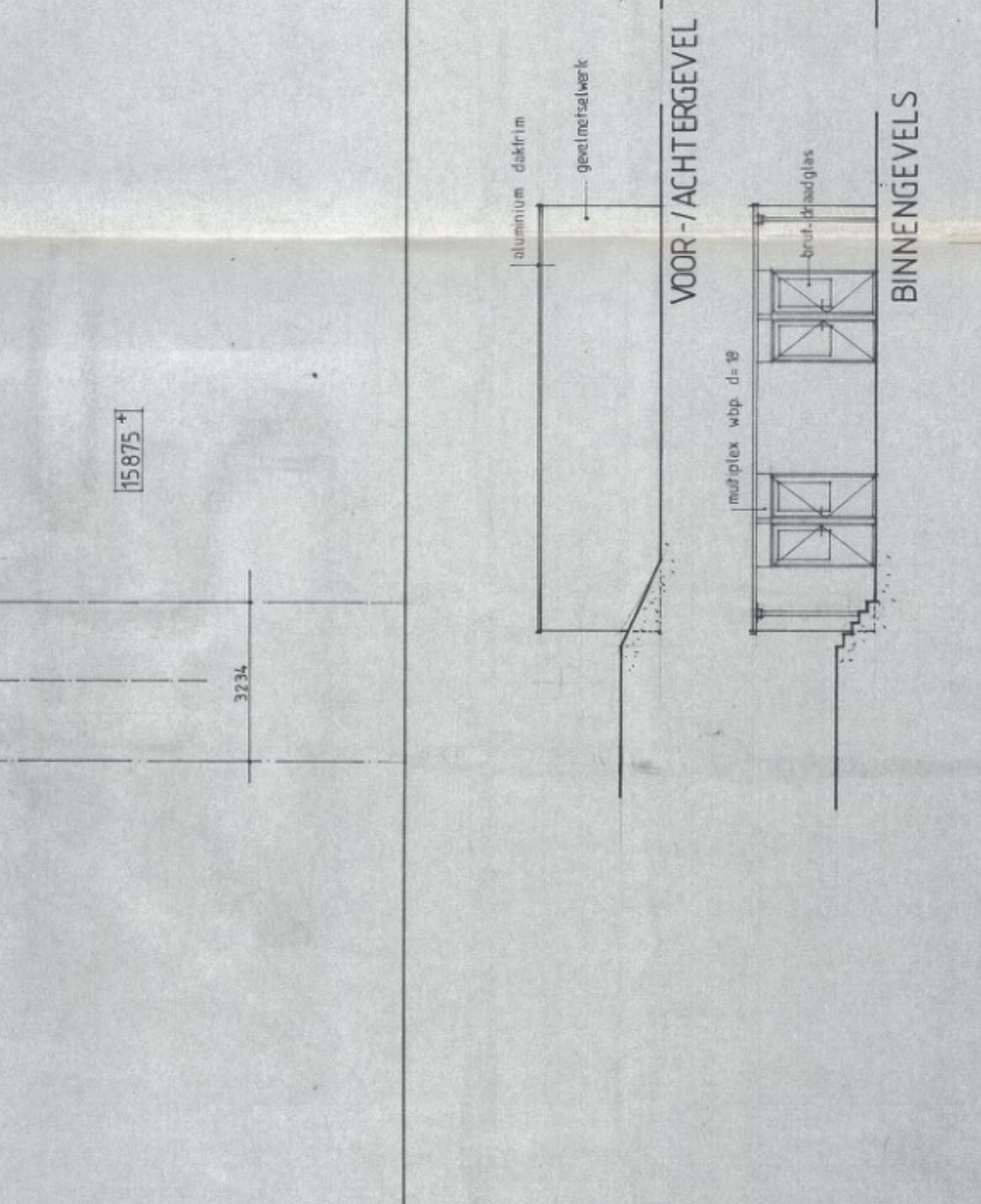
2e VERDIEPING



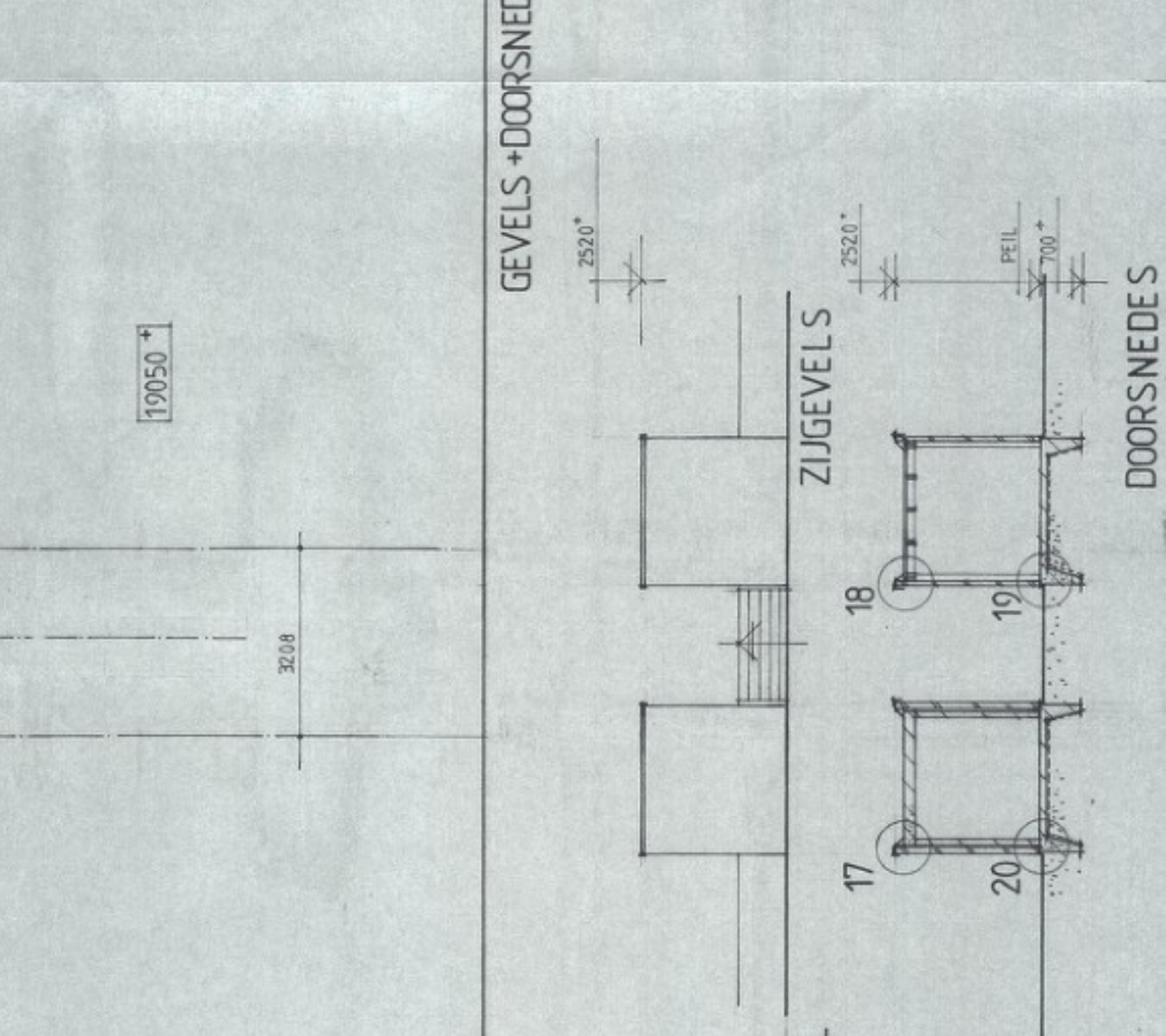
3e VERDIEPING



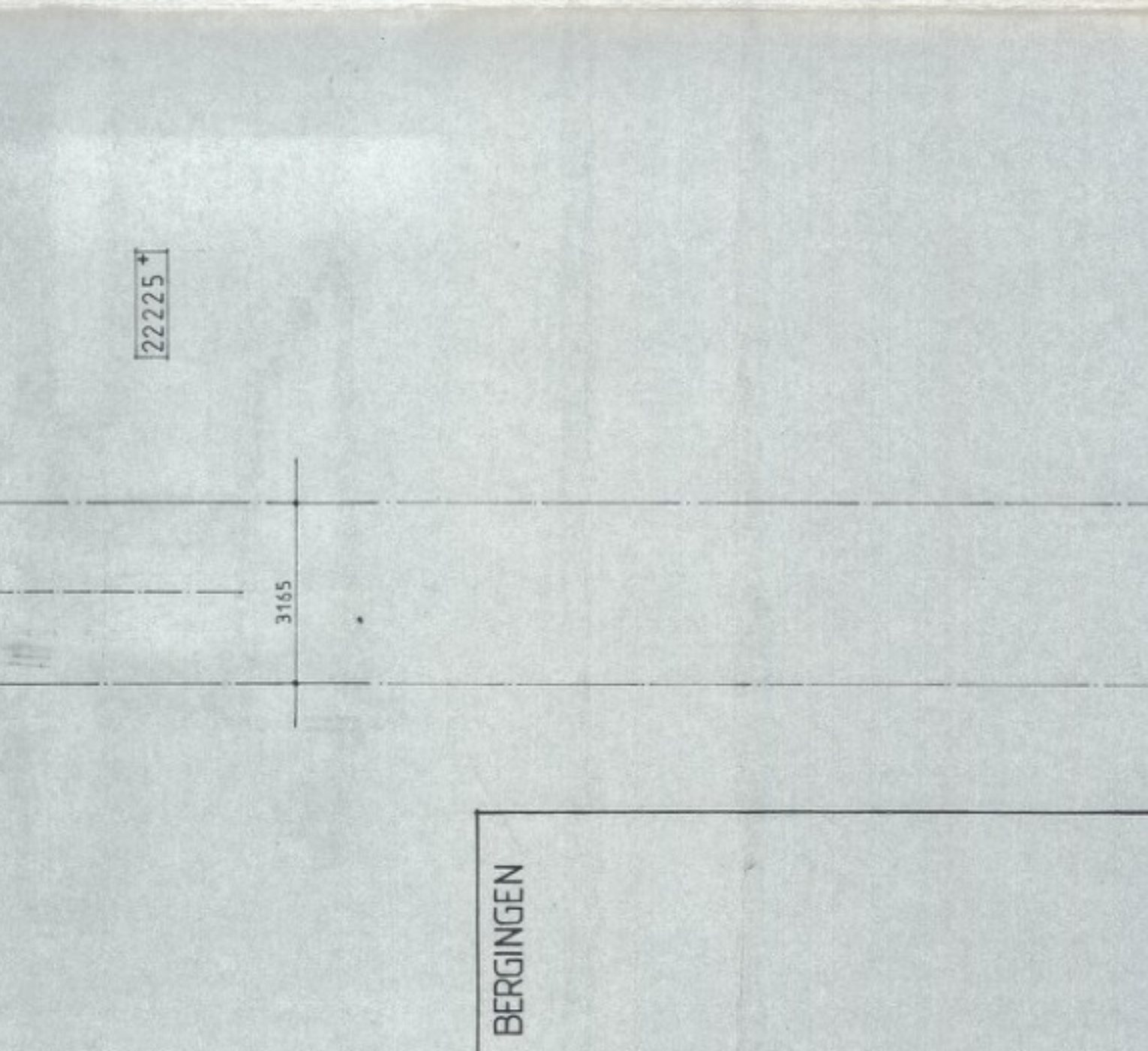
4e VERDIEPING



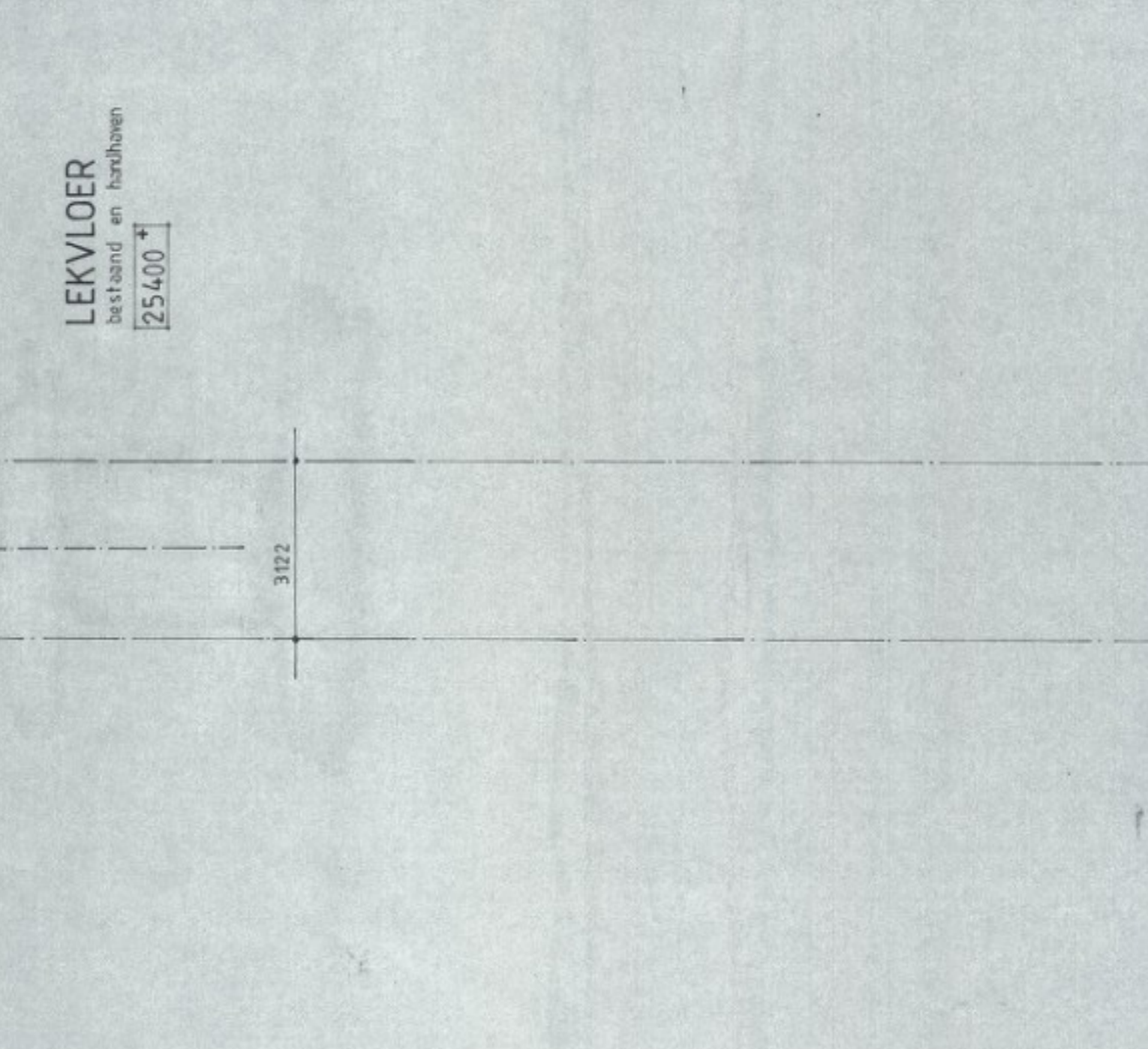
BEGANE GROND



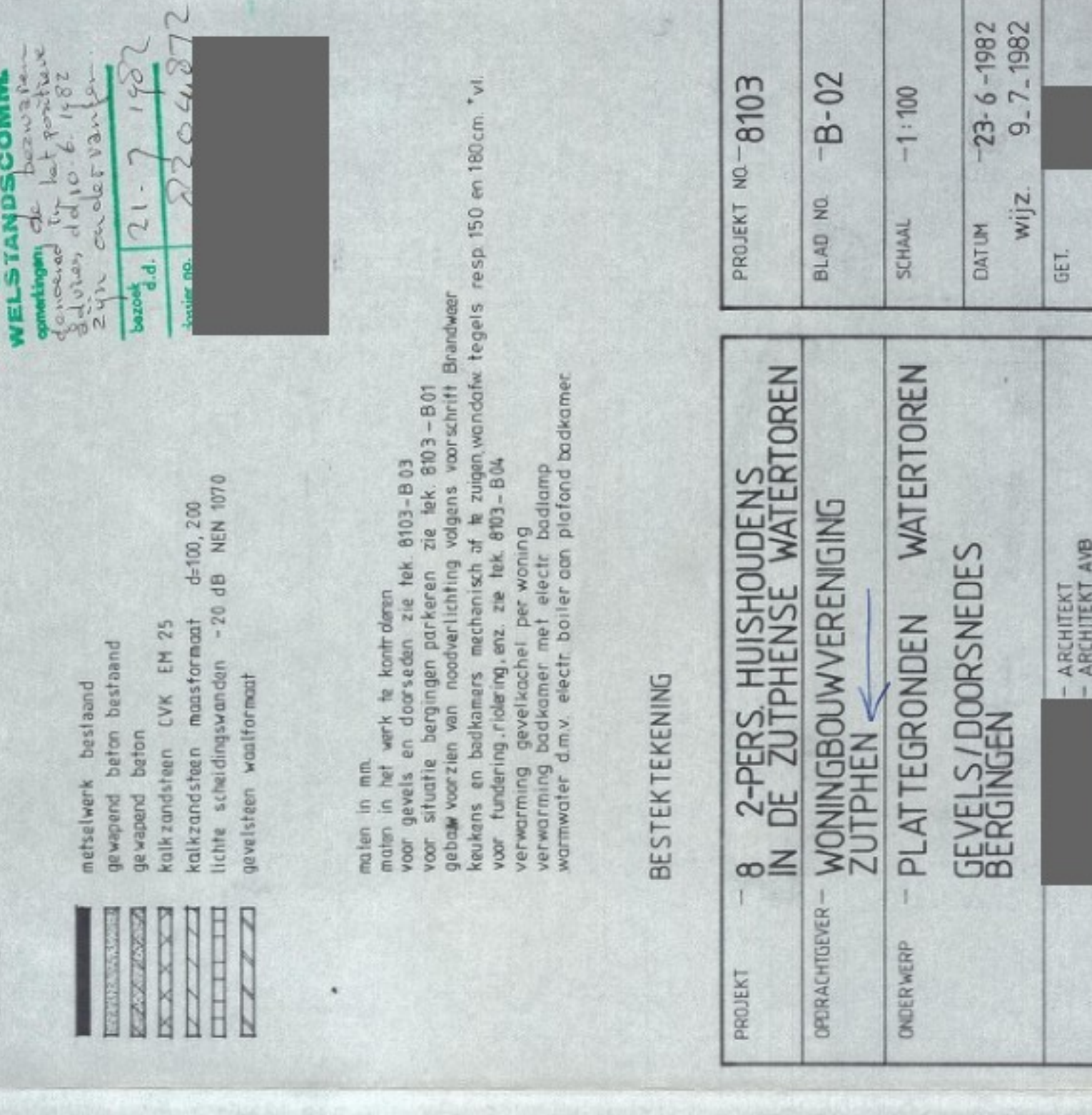
1e VERDIEPING



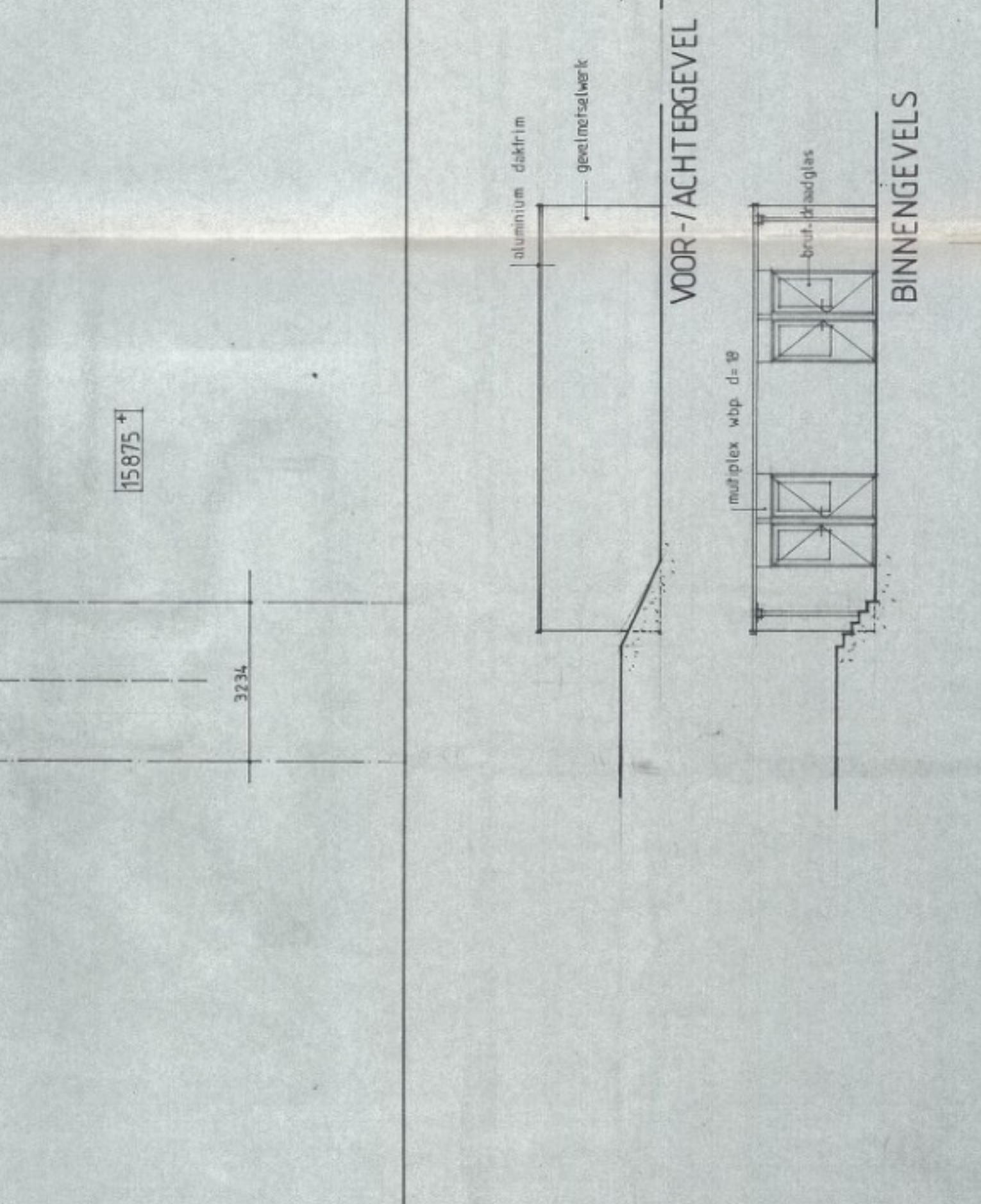
2e VERDIEPING



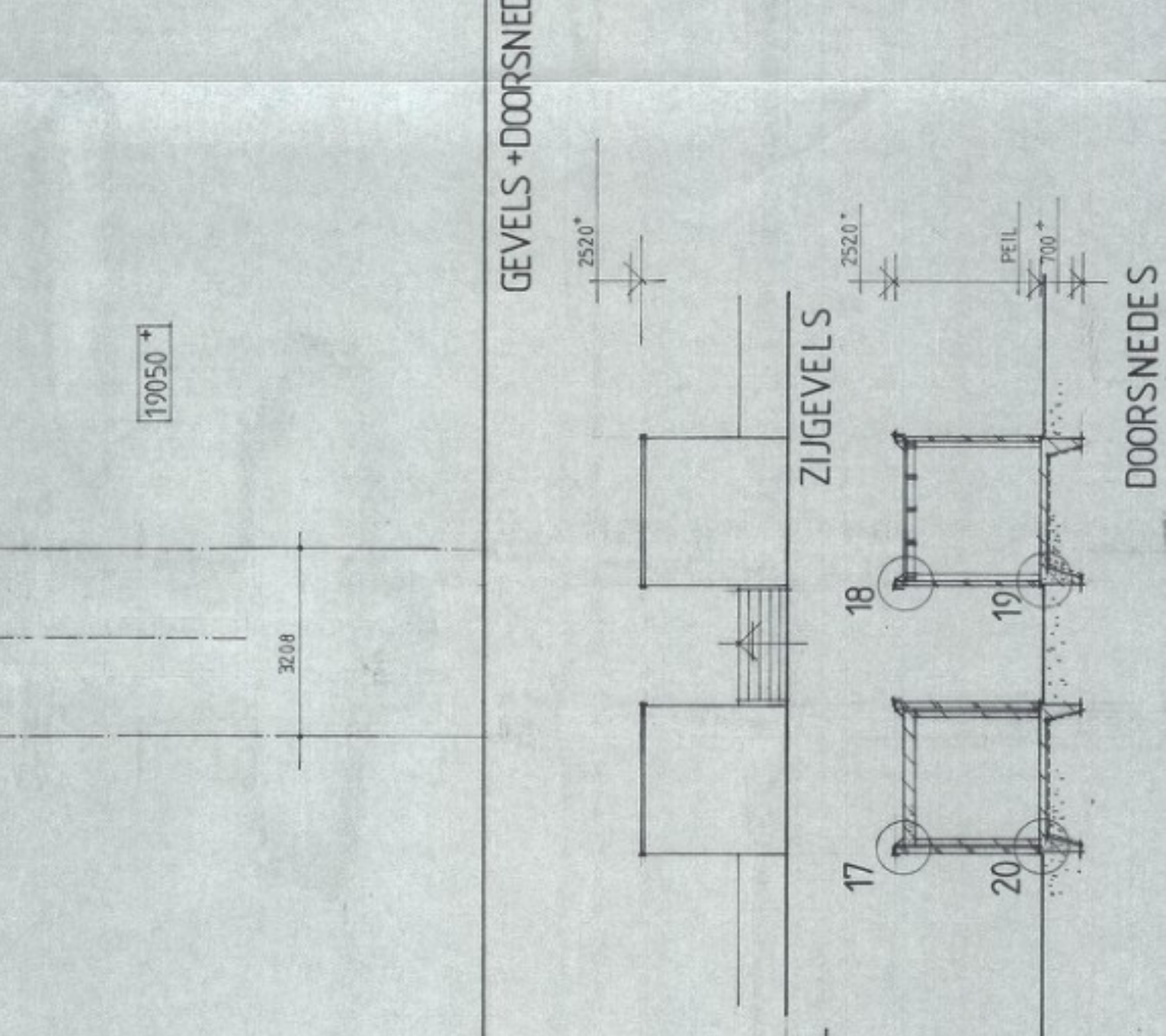
3e VERDIEPING



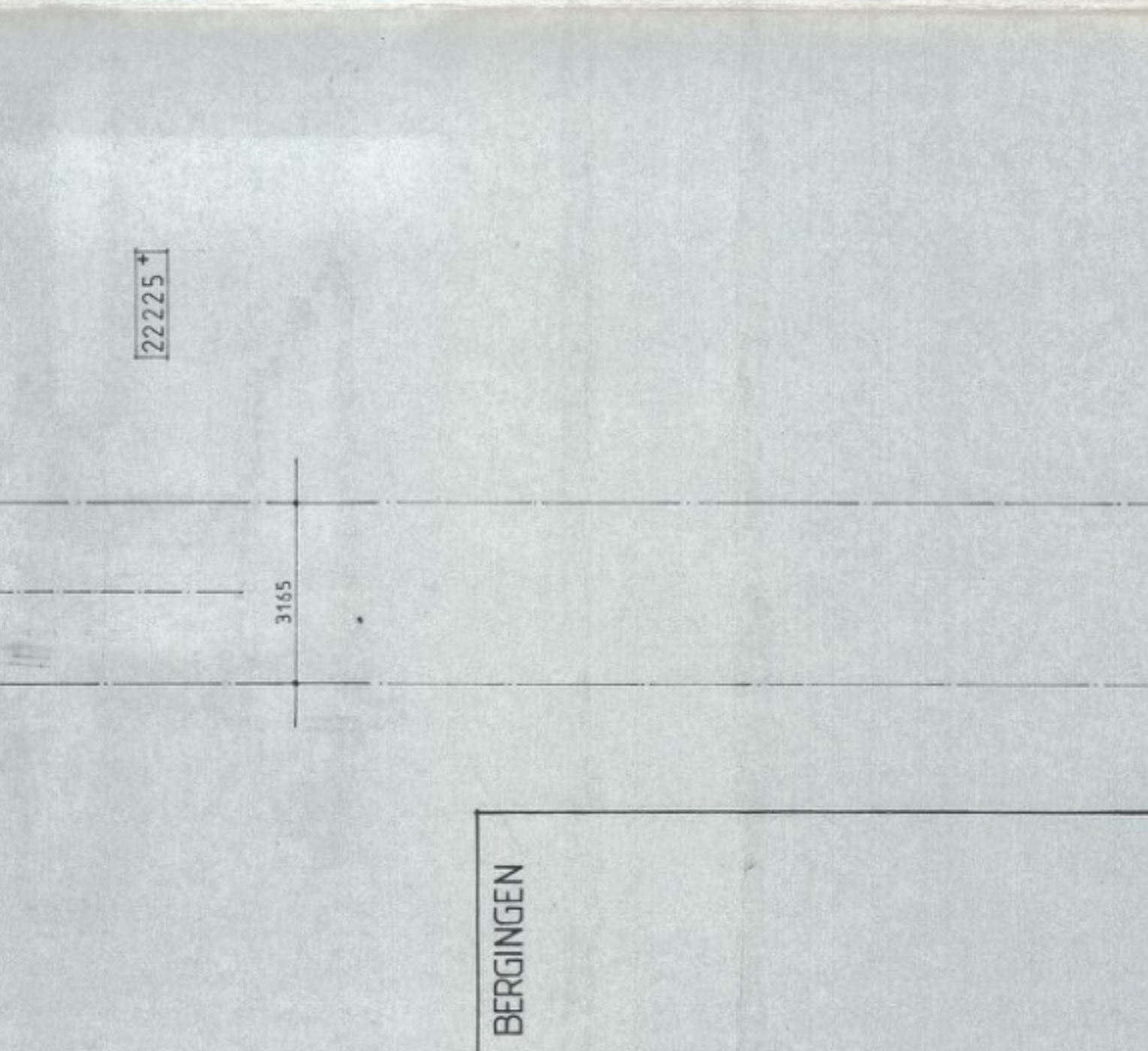
4e VERDIEPING



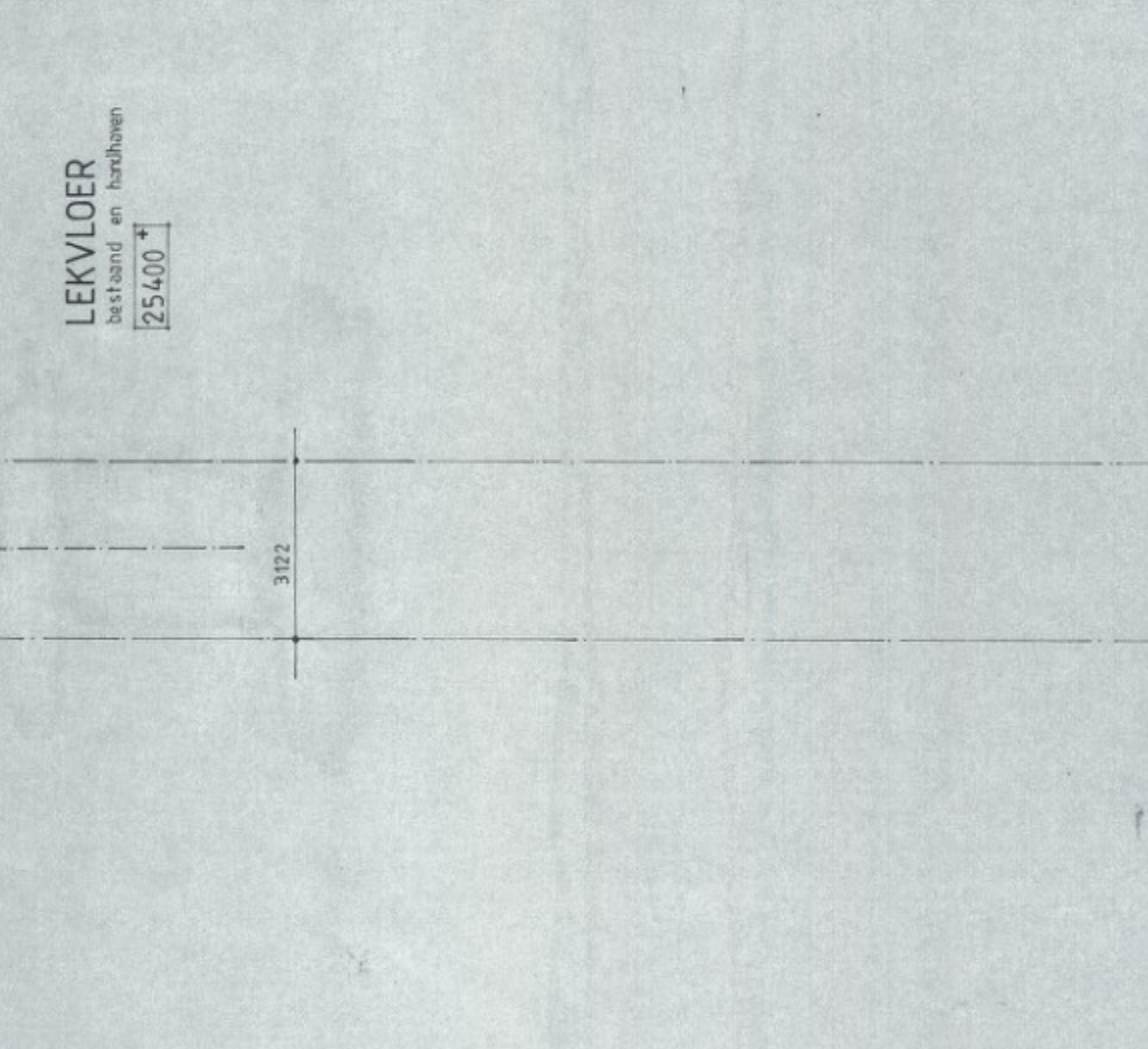
BEGANE GROND



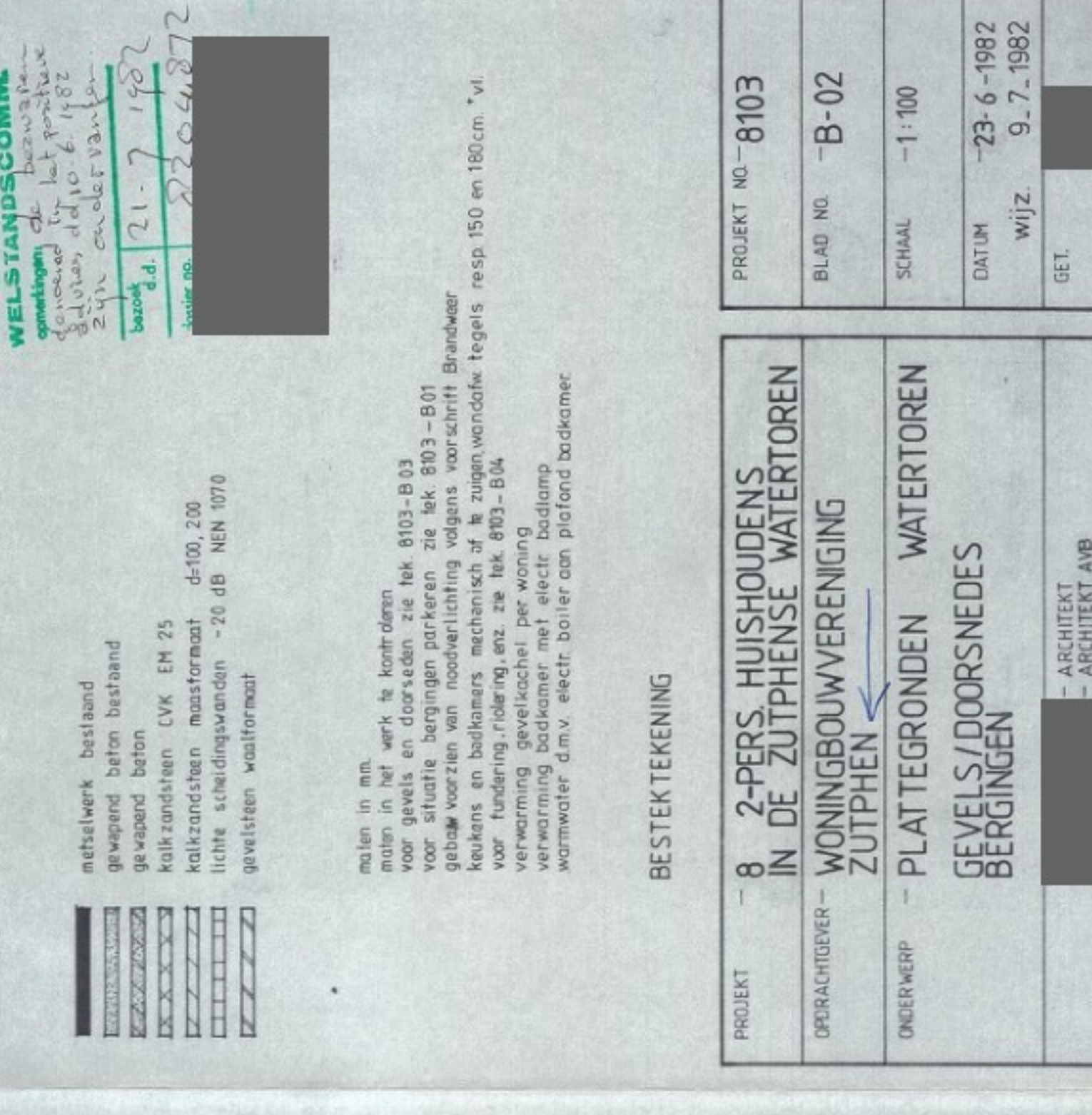
1e VERDIEPING



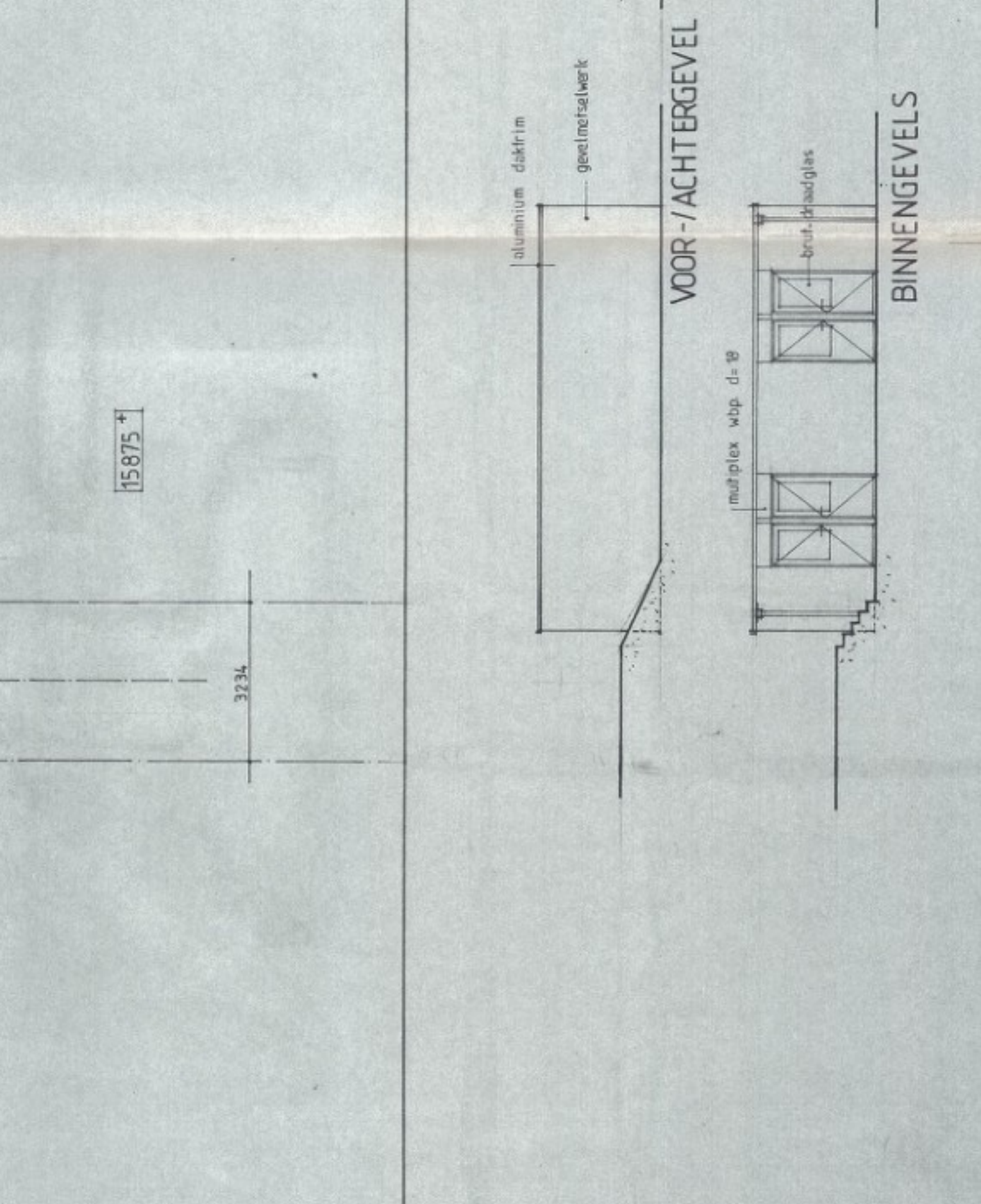
2e VERDIEPING



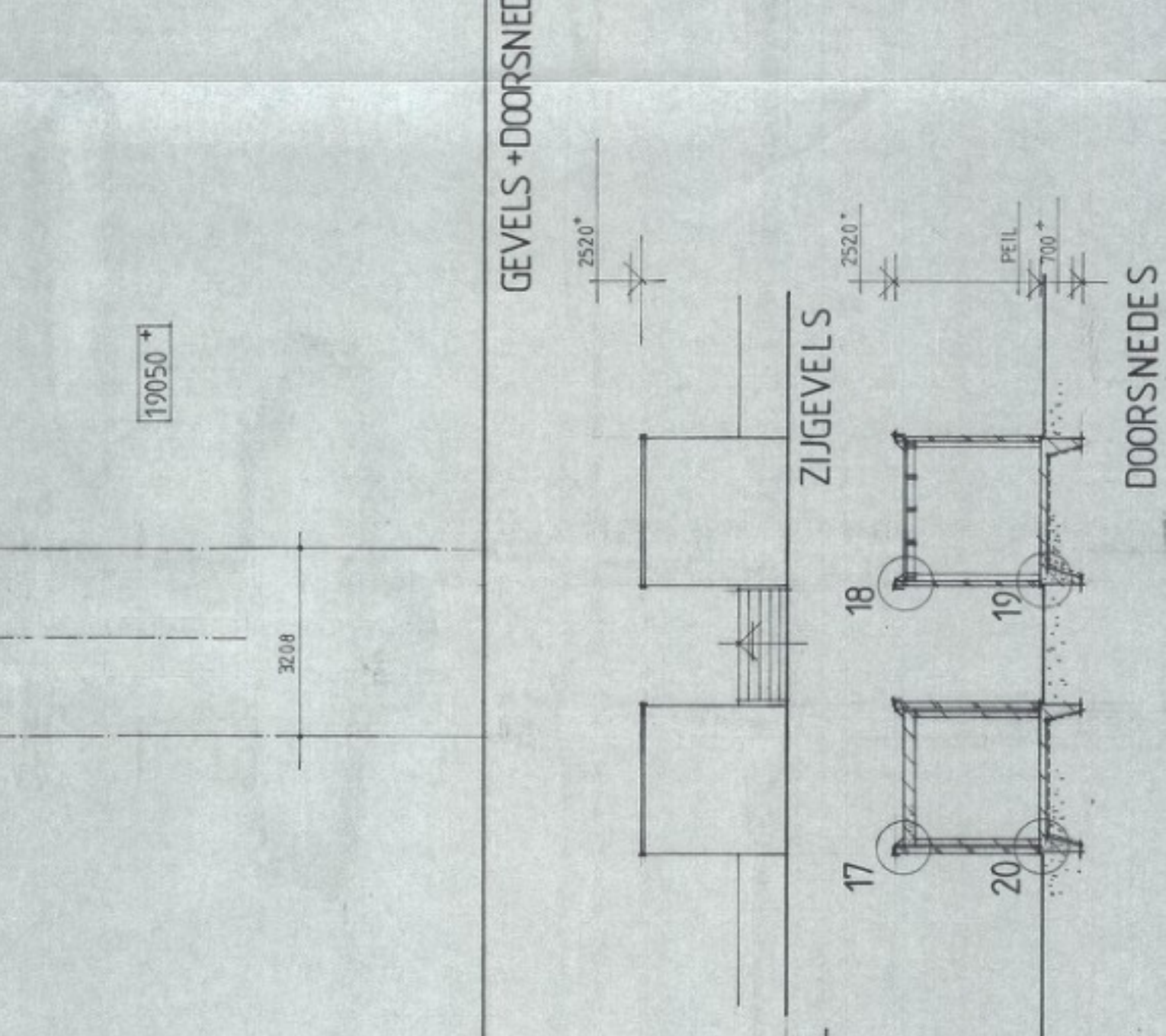
3e VERDIEPING



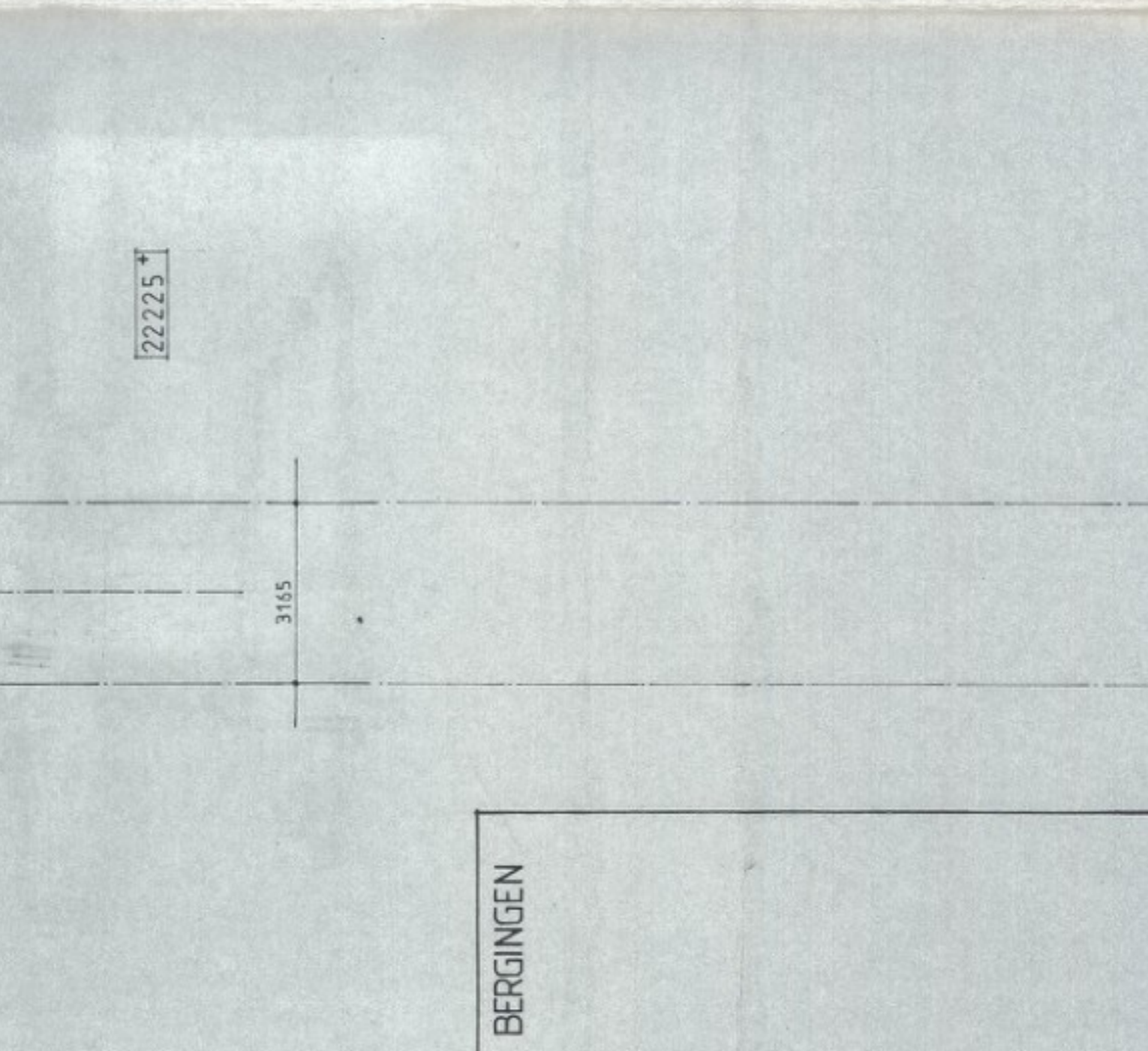
4e VERDIEPING



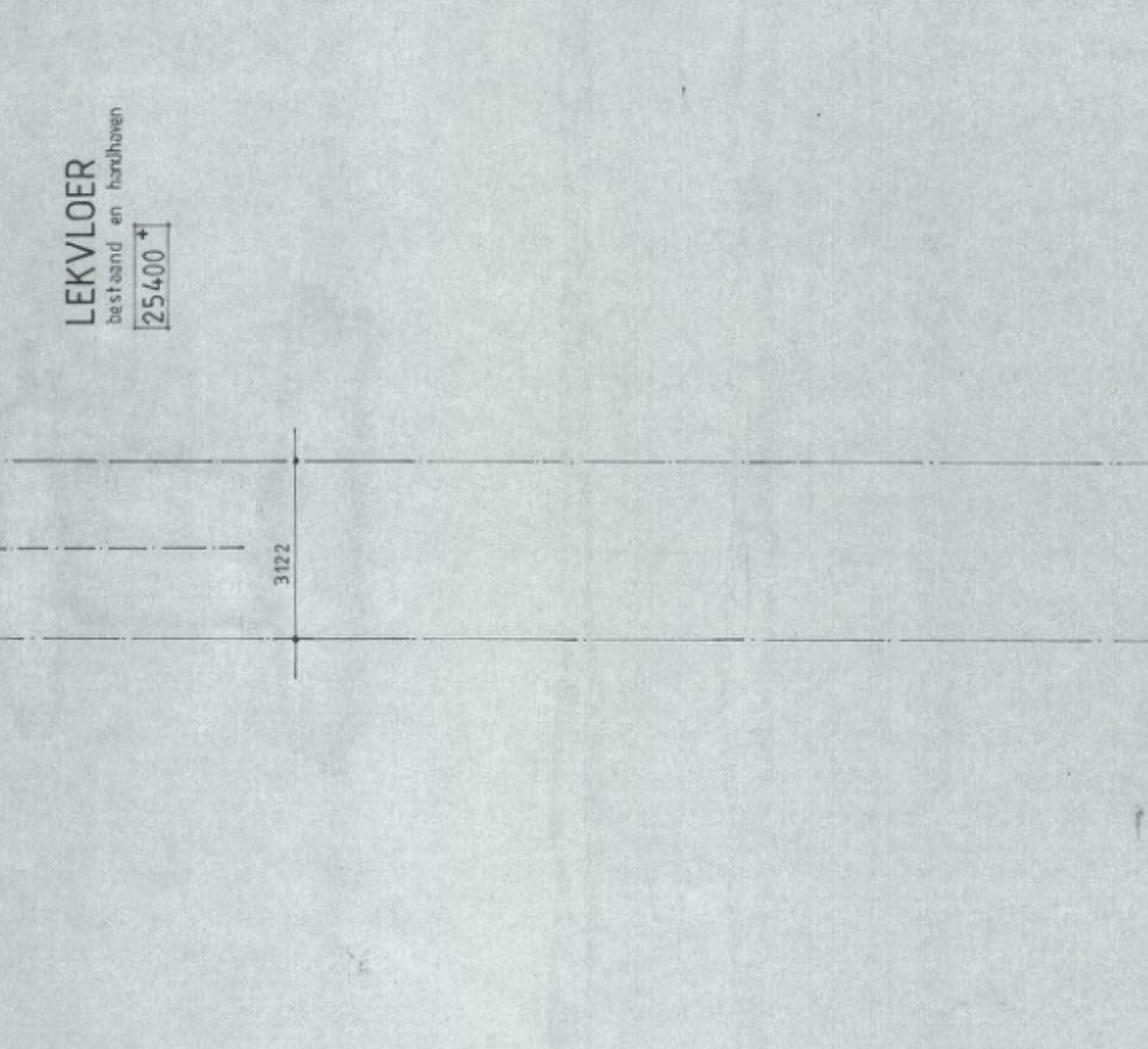
BEGANE GROND



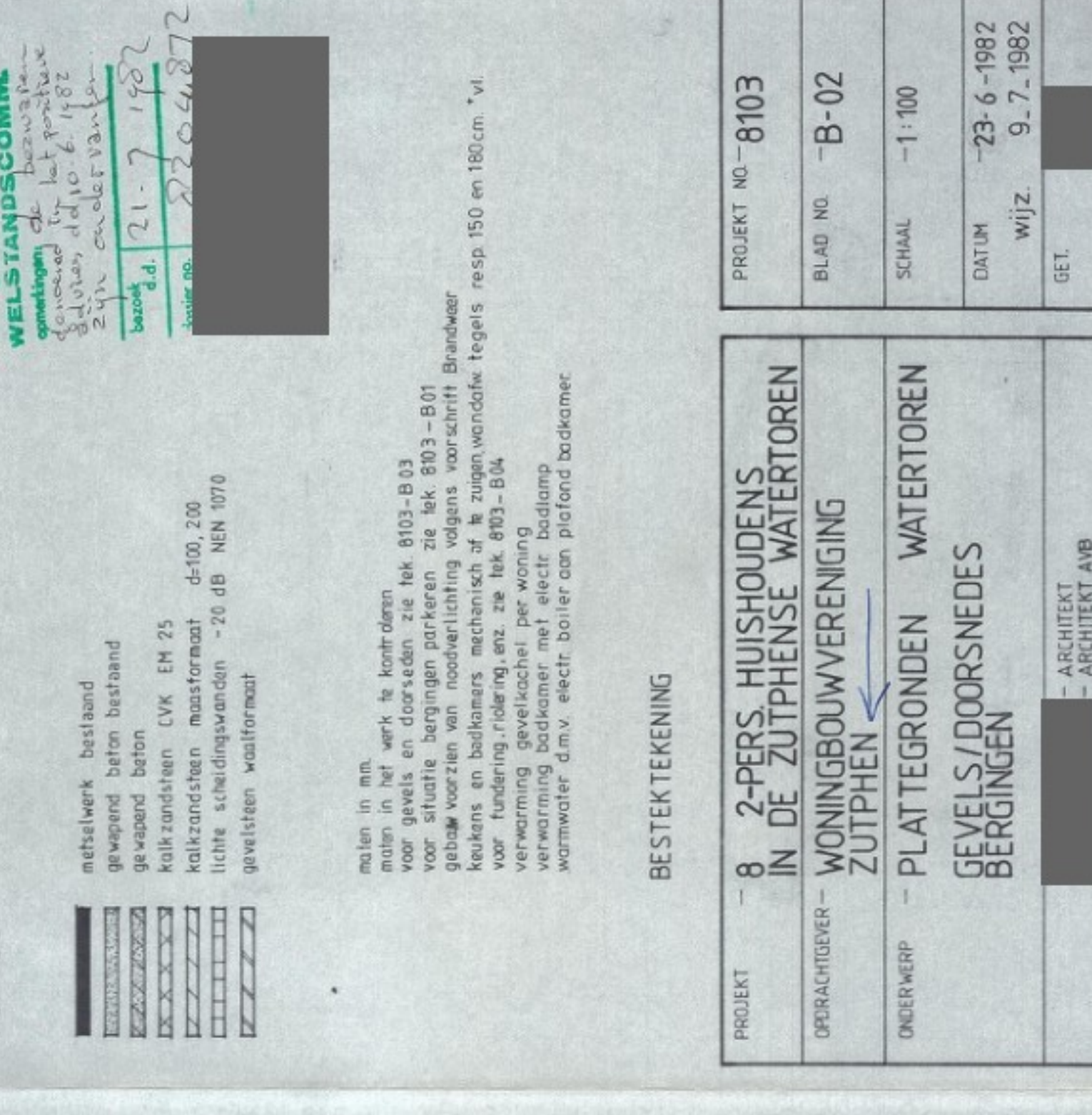
1e VERDIEPING



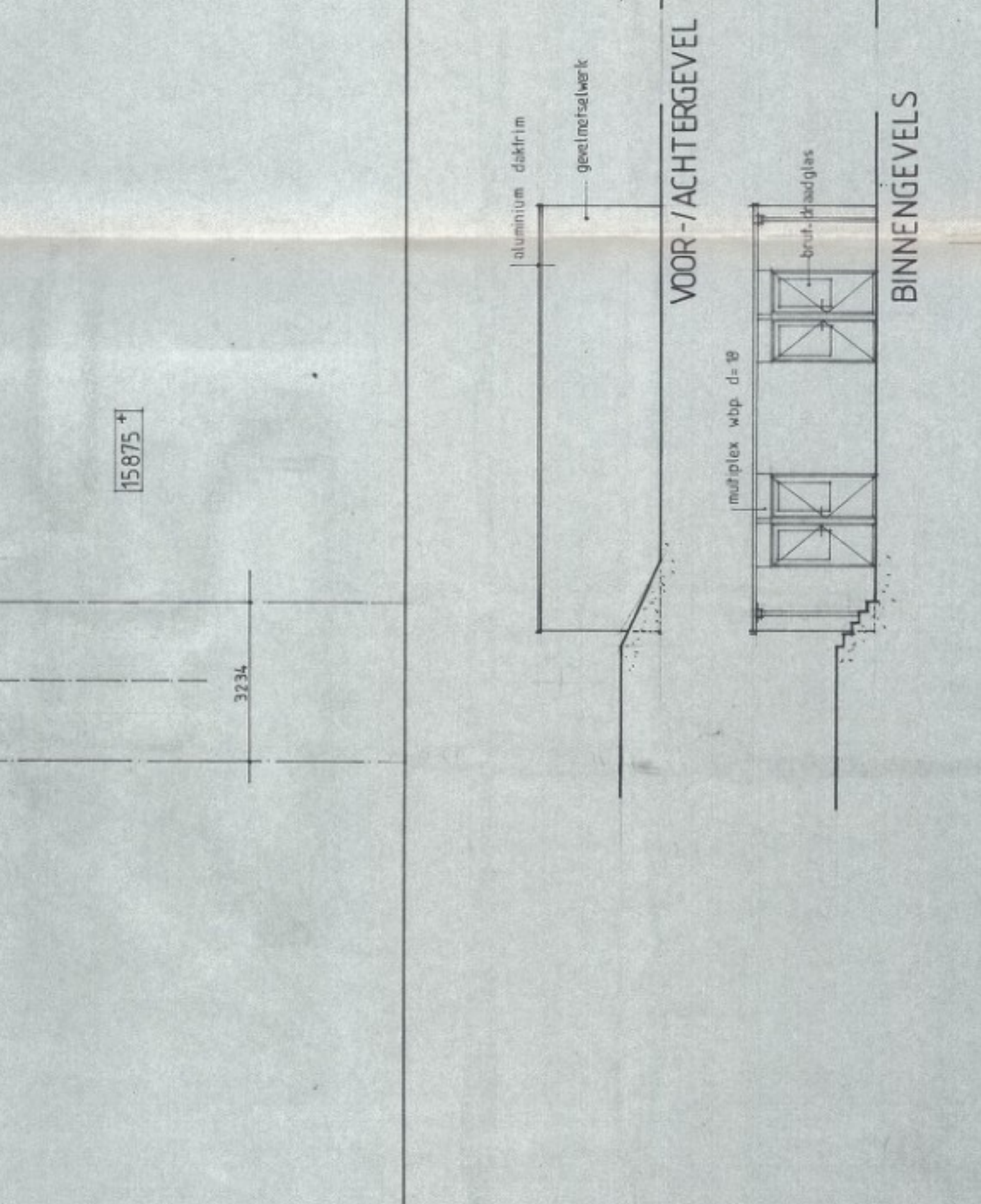
2e VERDIEPING



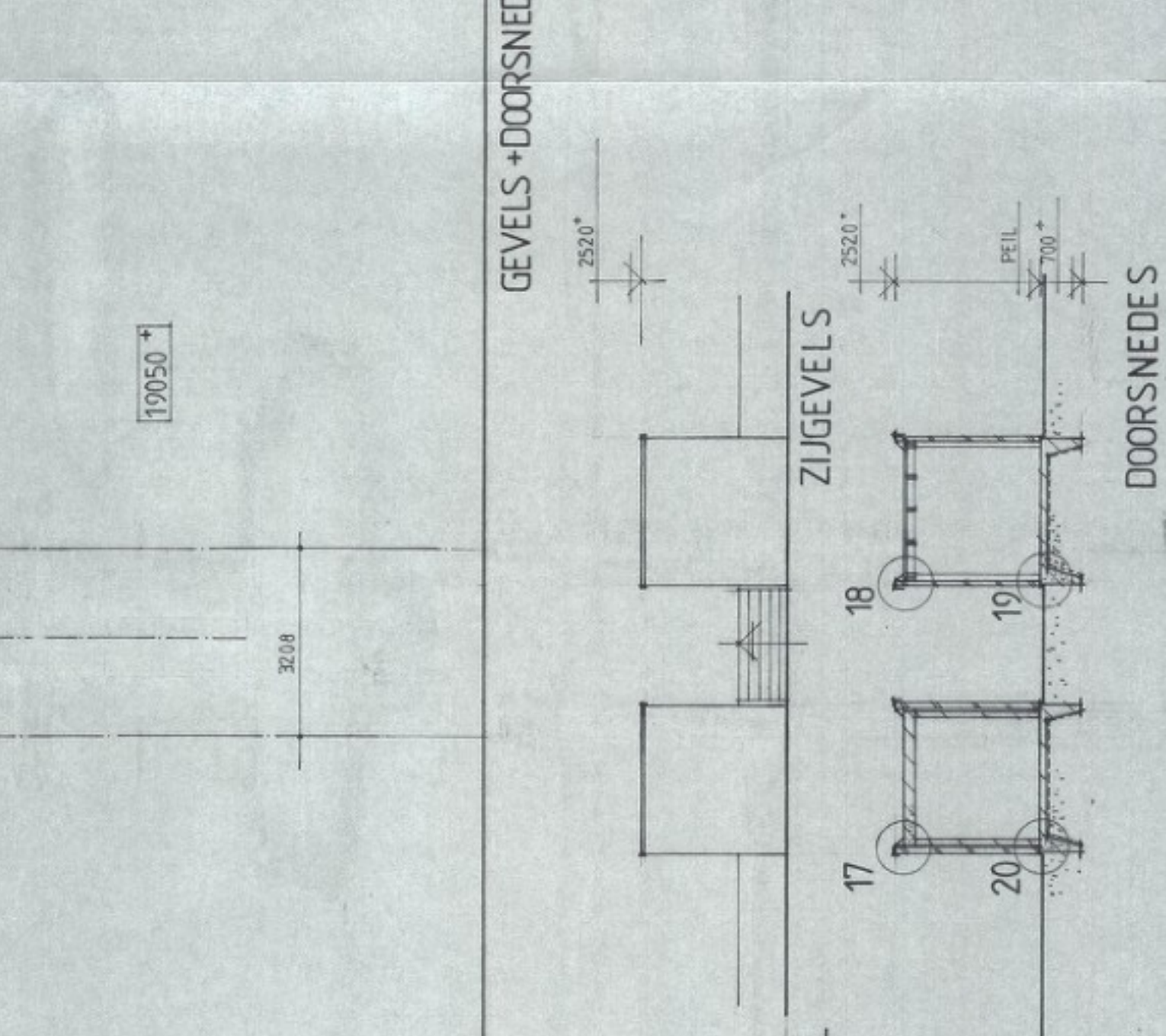
3e VERDIEPING



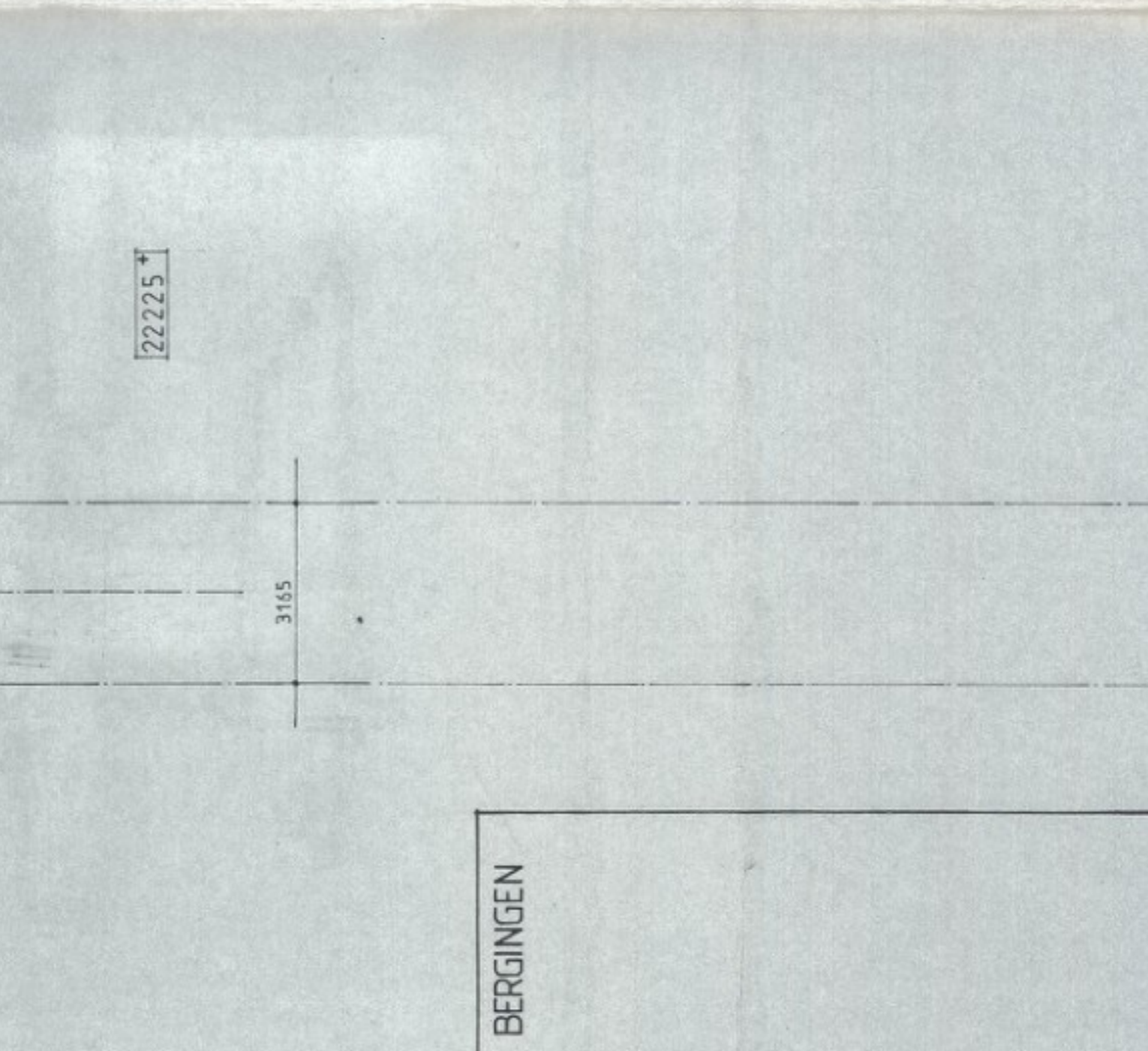
4e VERDIEPING



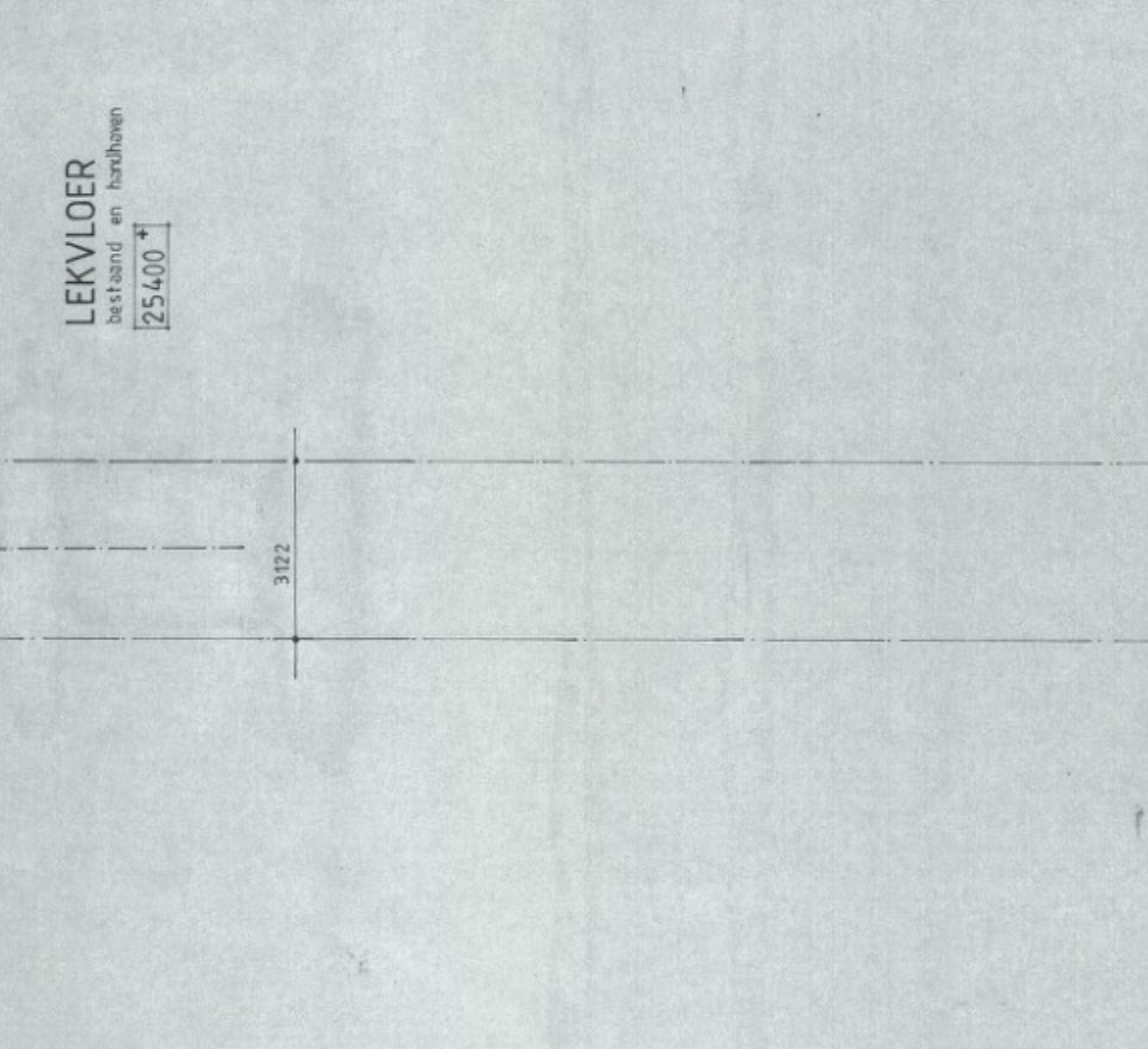
BEGANE GROND



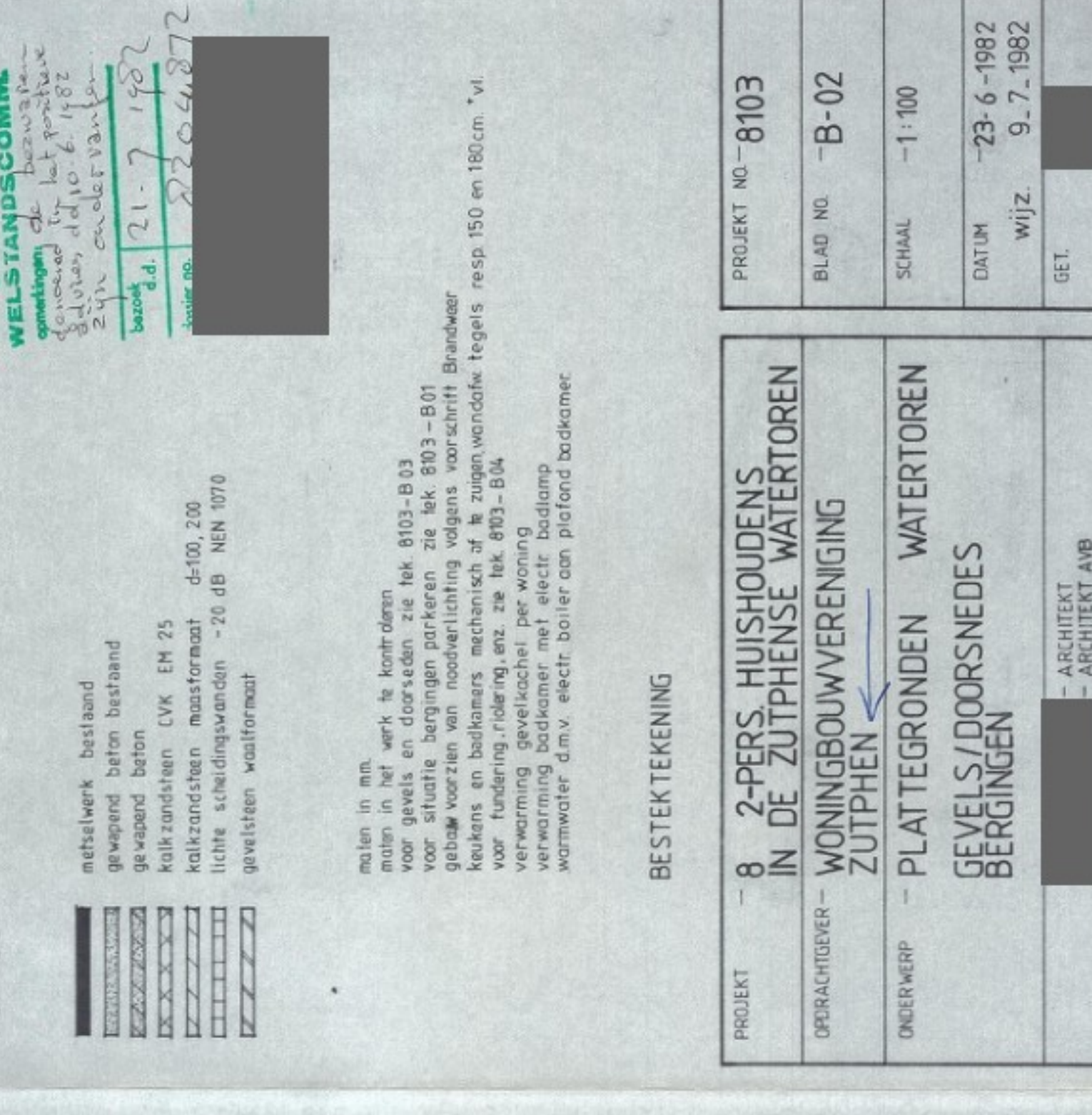
1e VERDIEPING



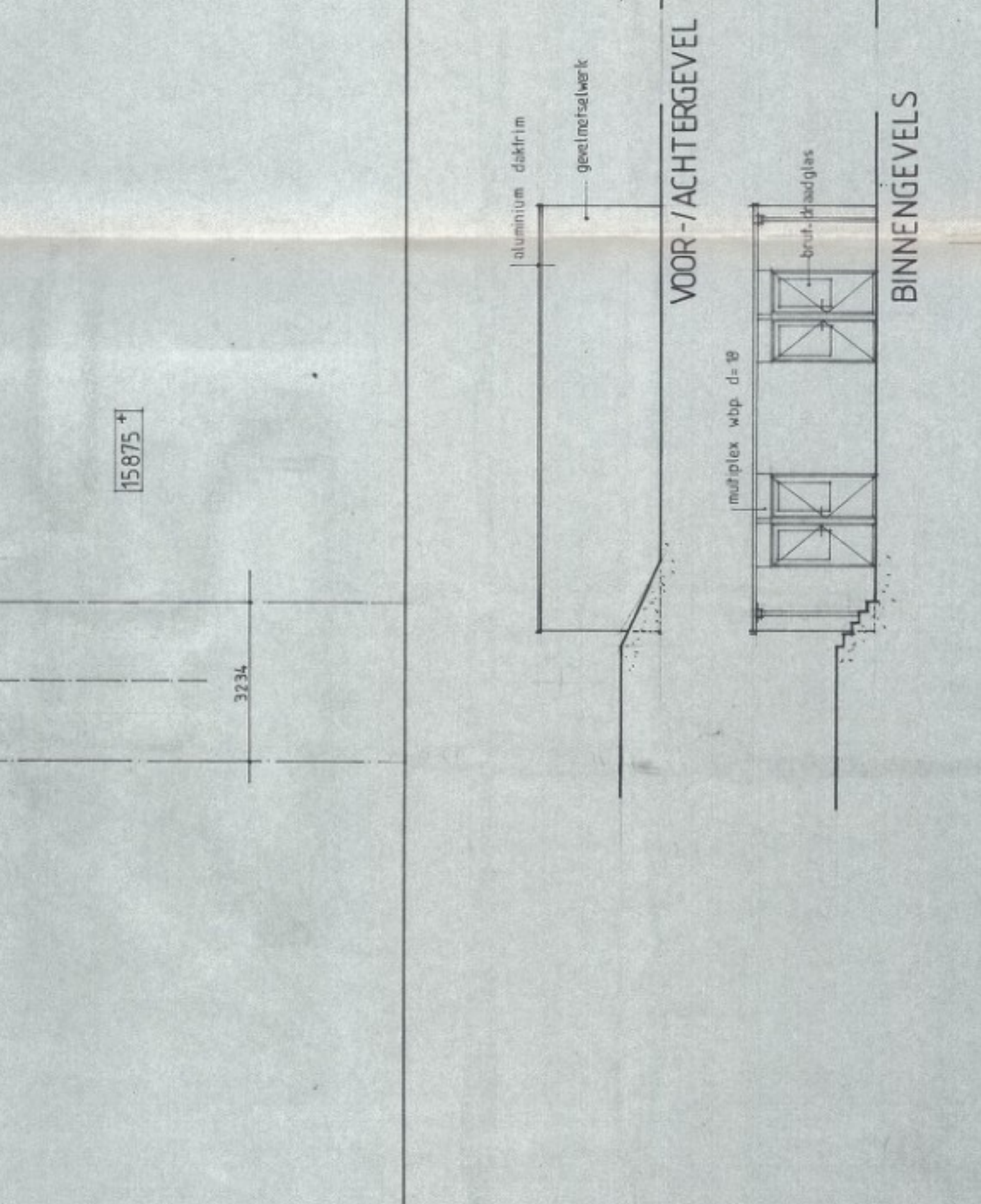
2e VERDIEPING



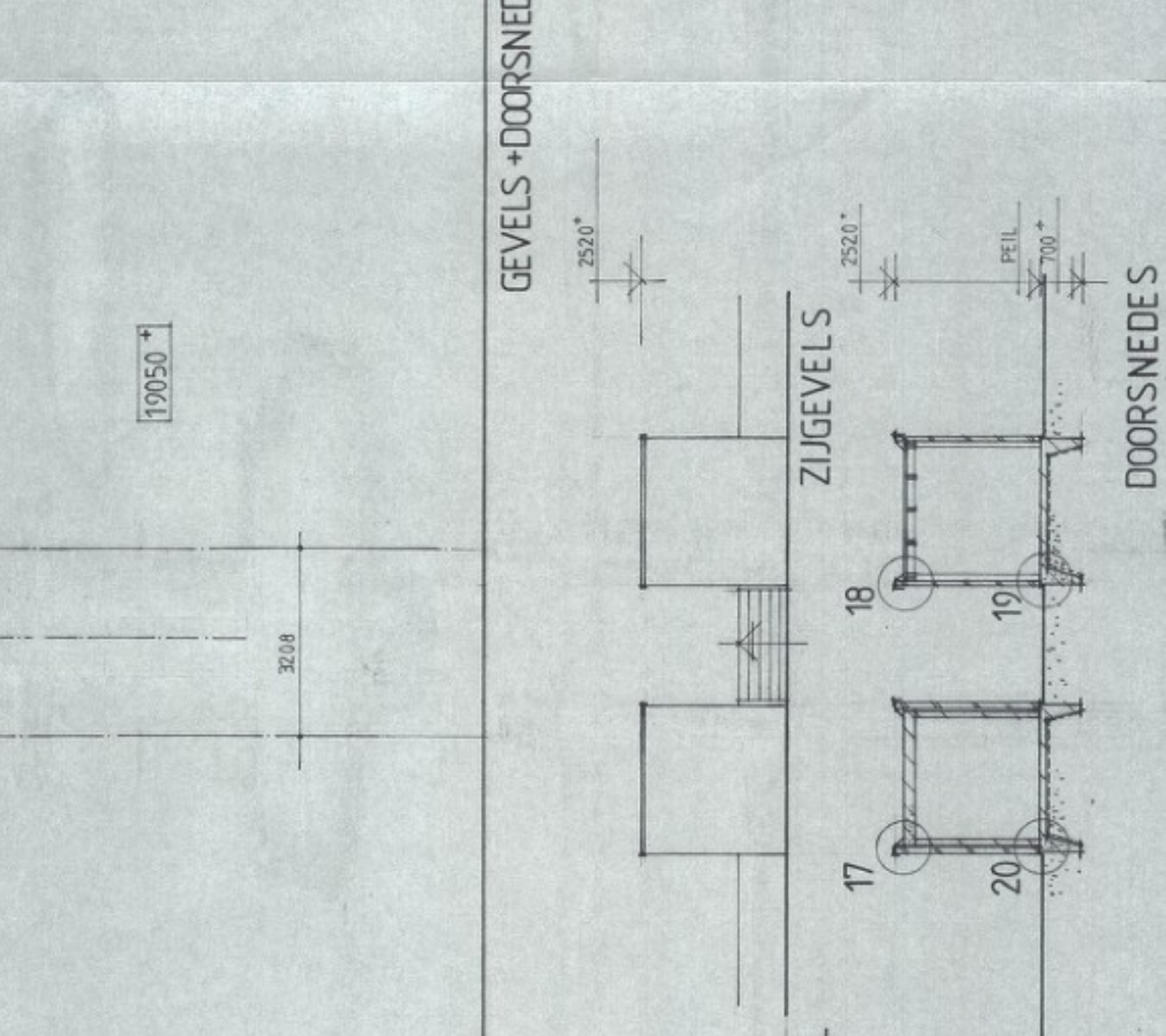
3e VERDIEPING



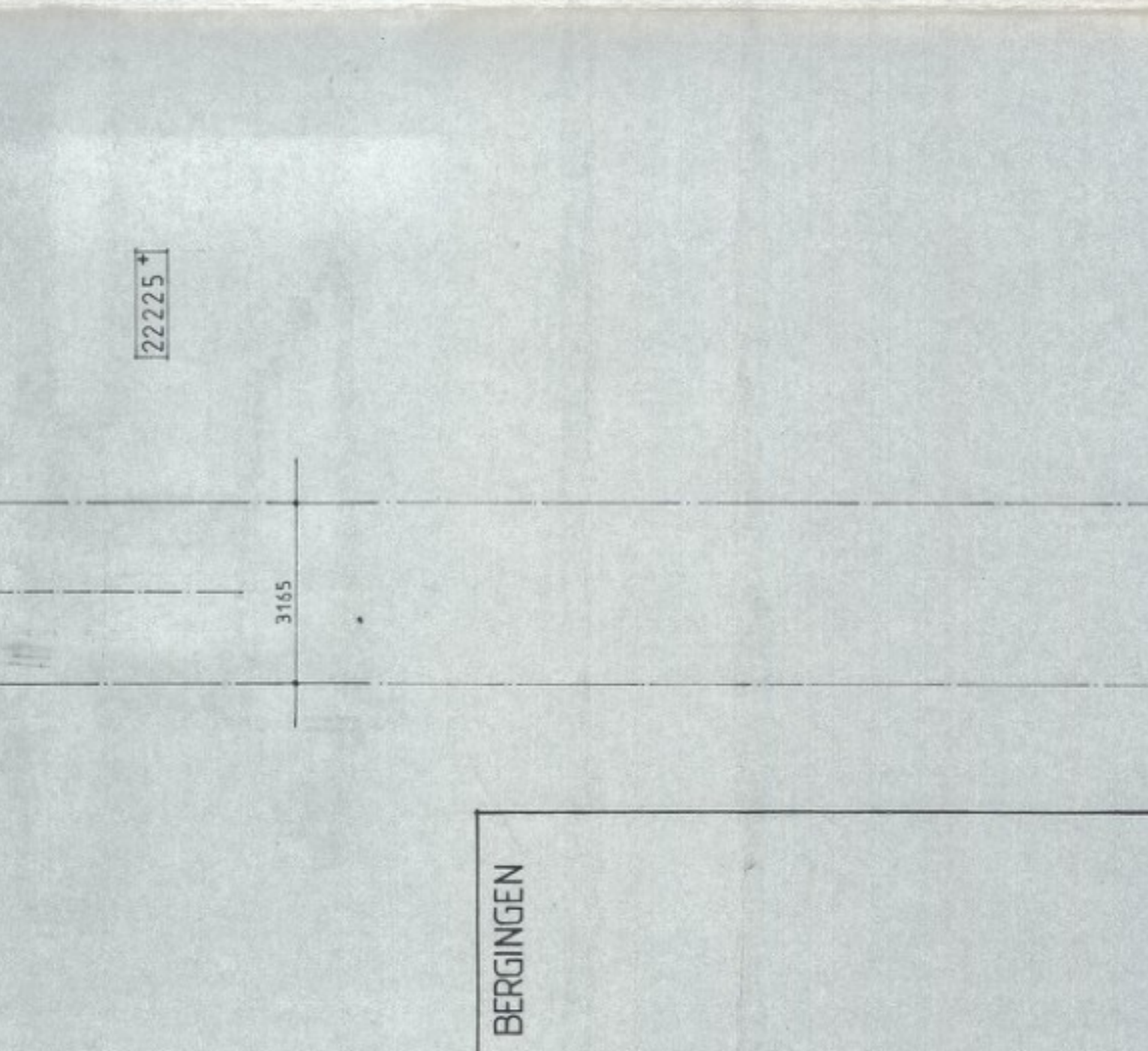
4e VERDIEPING



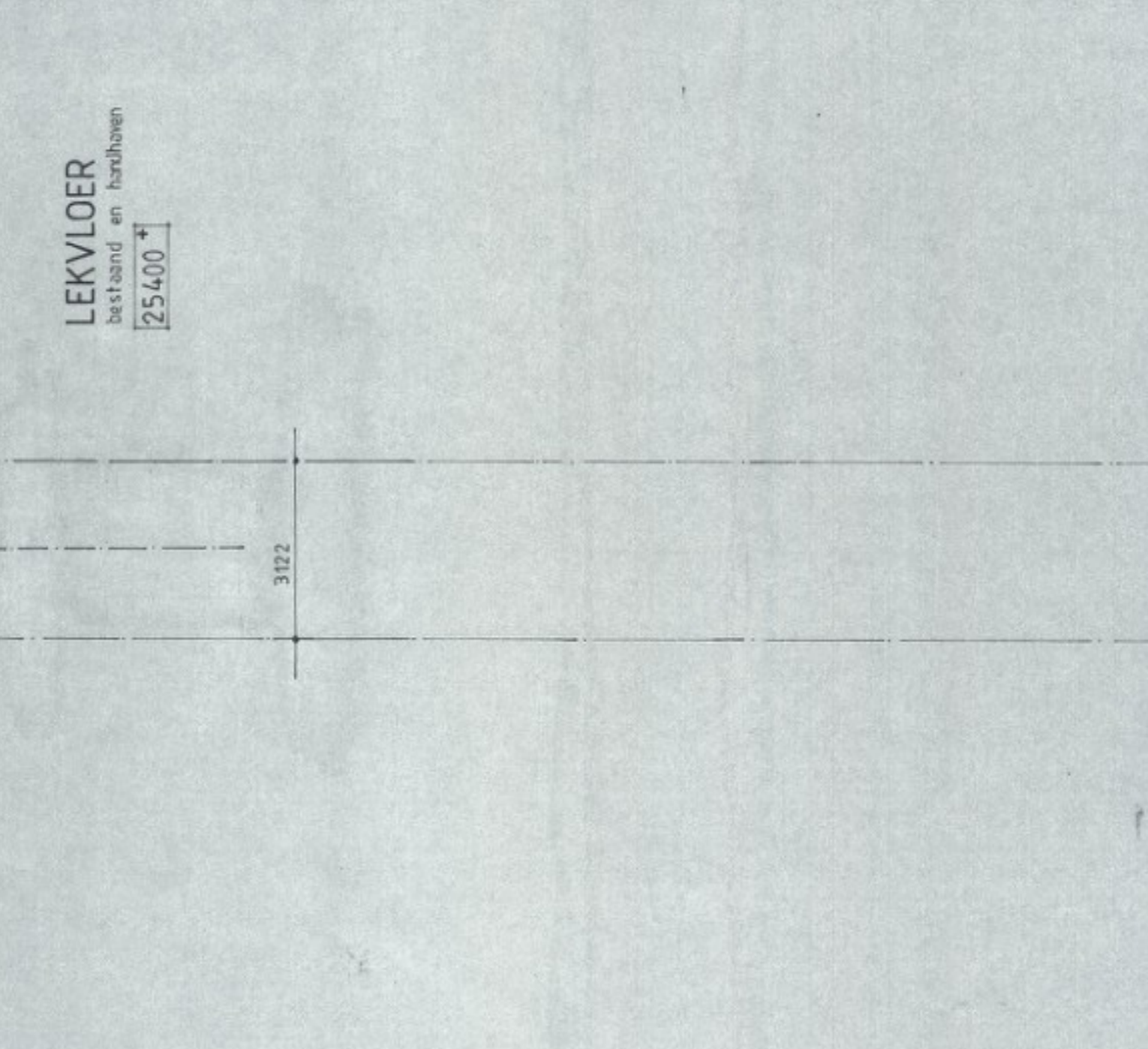
BEGANE GROND



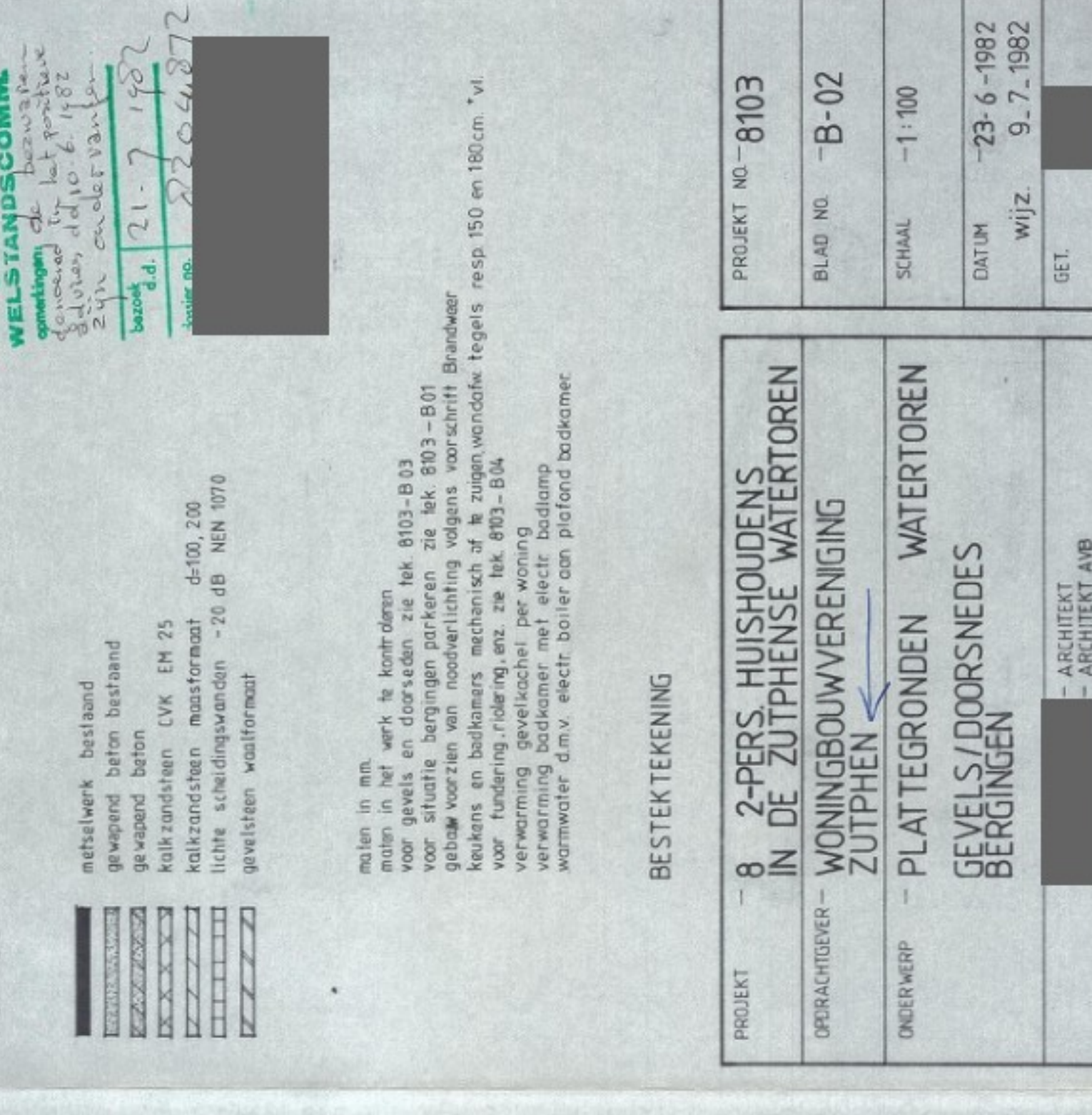
1e VERDIEPING



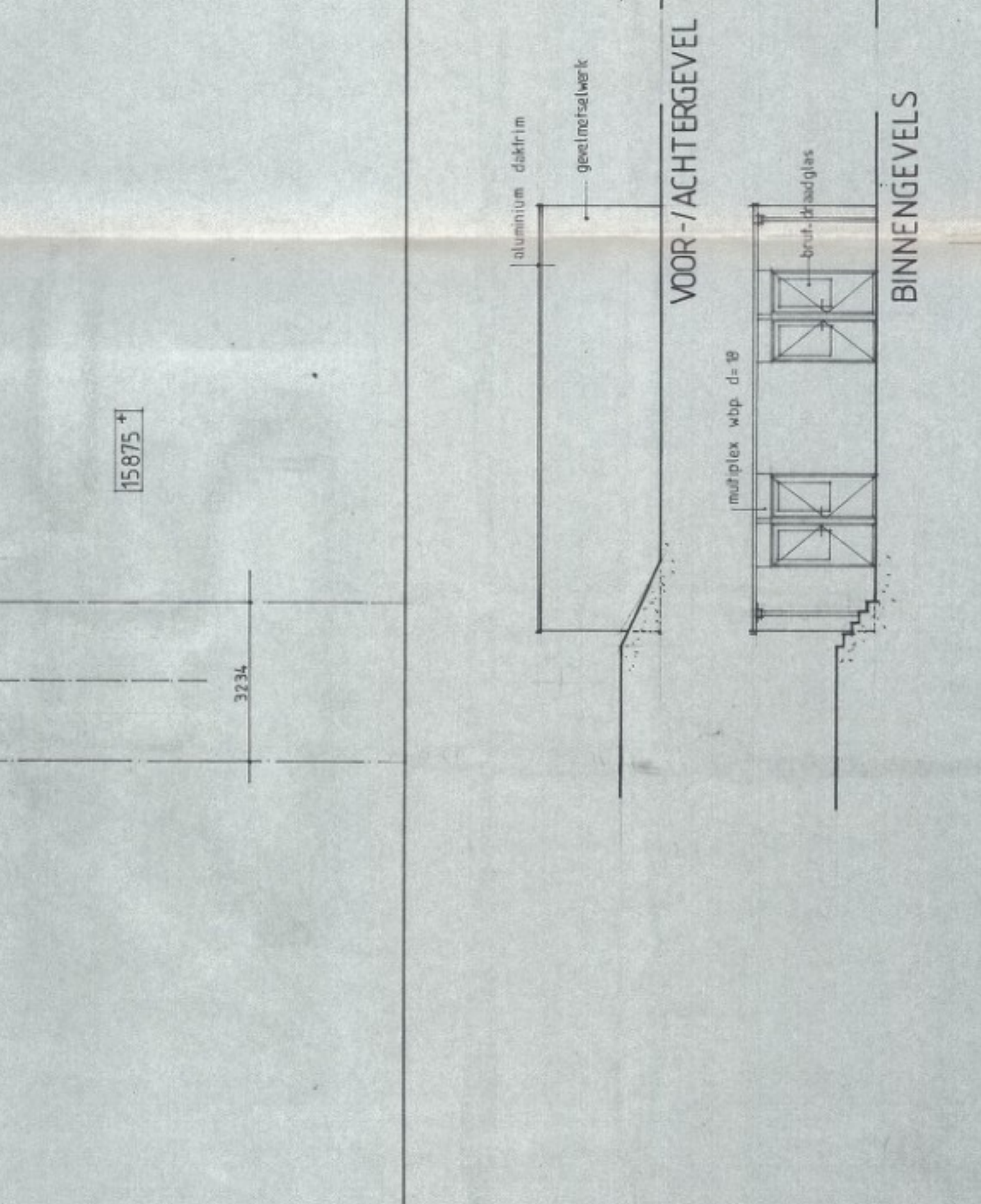
2e VERDIEPING



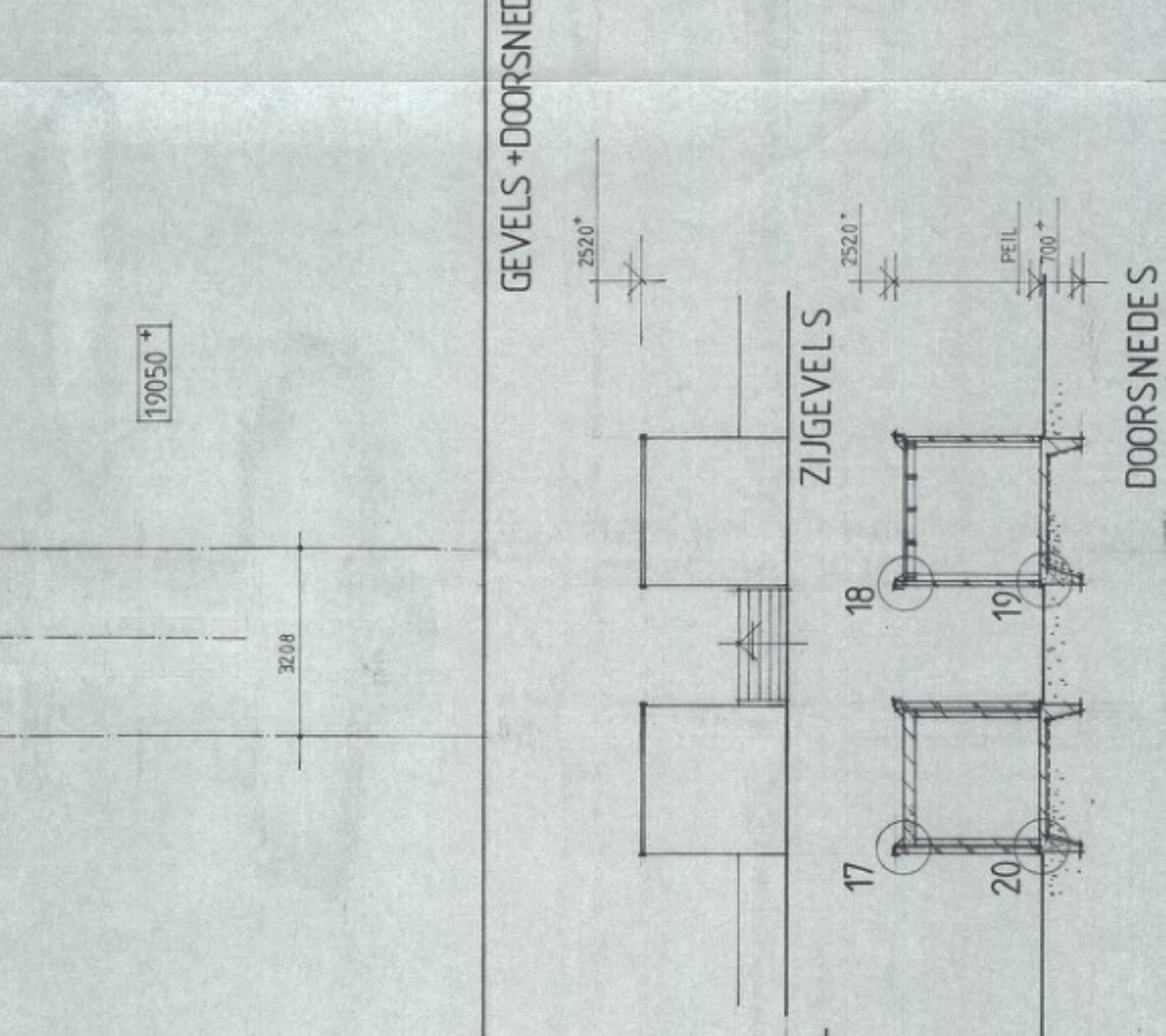
3e VERDIEPING



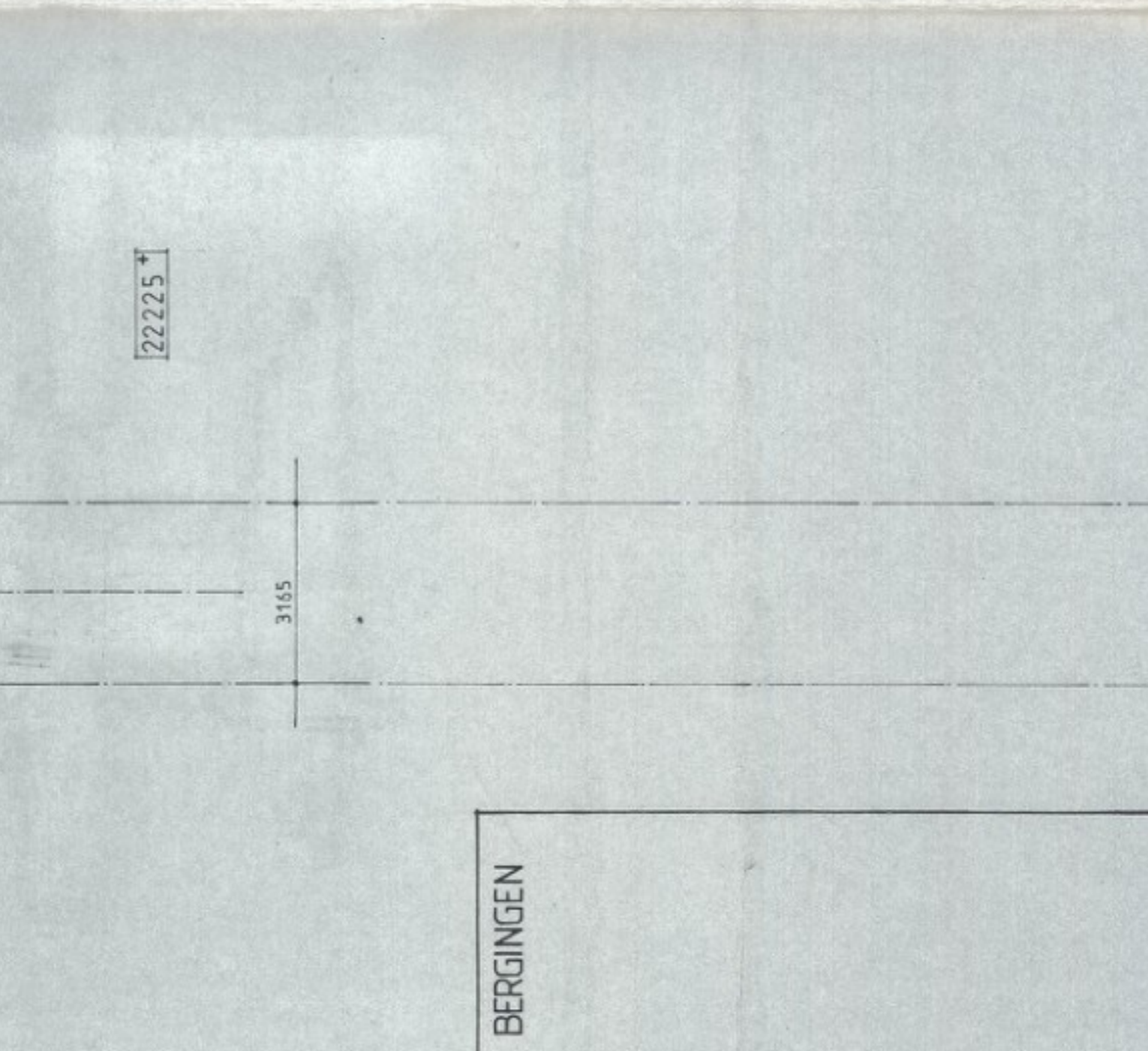
4e VERDIEPING



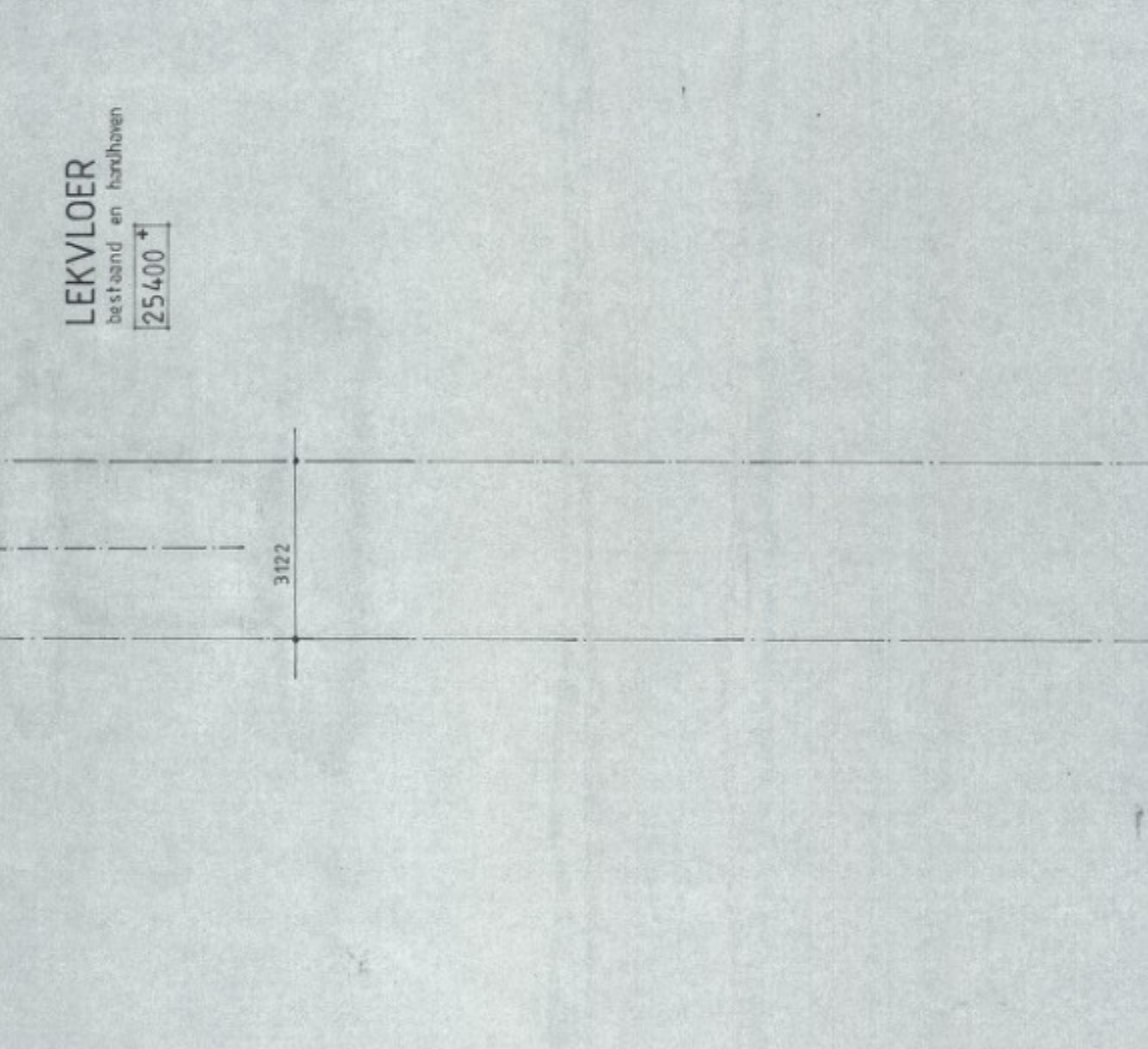
BEGANE GROND



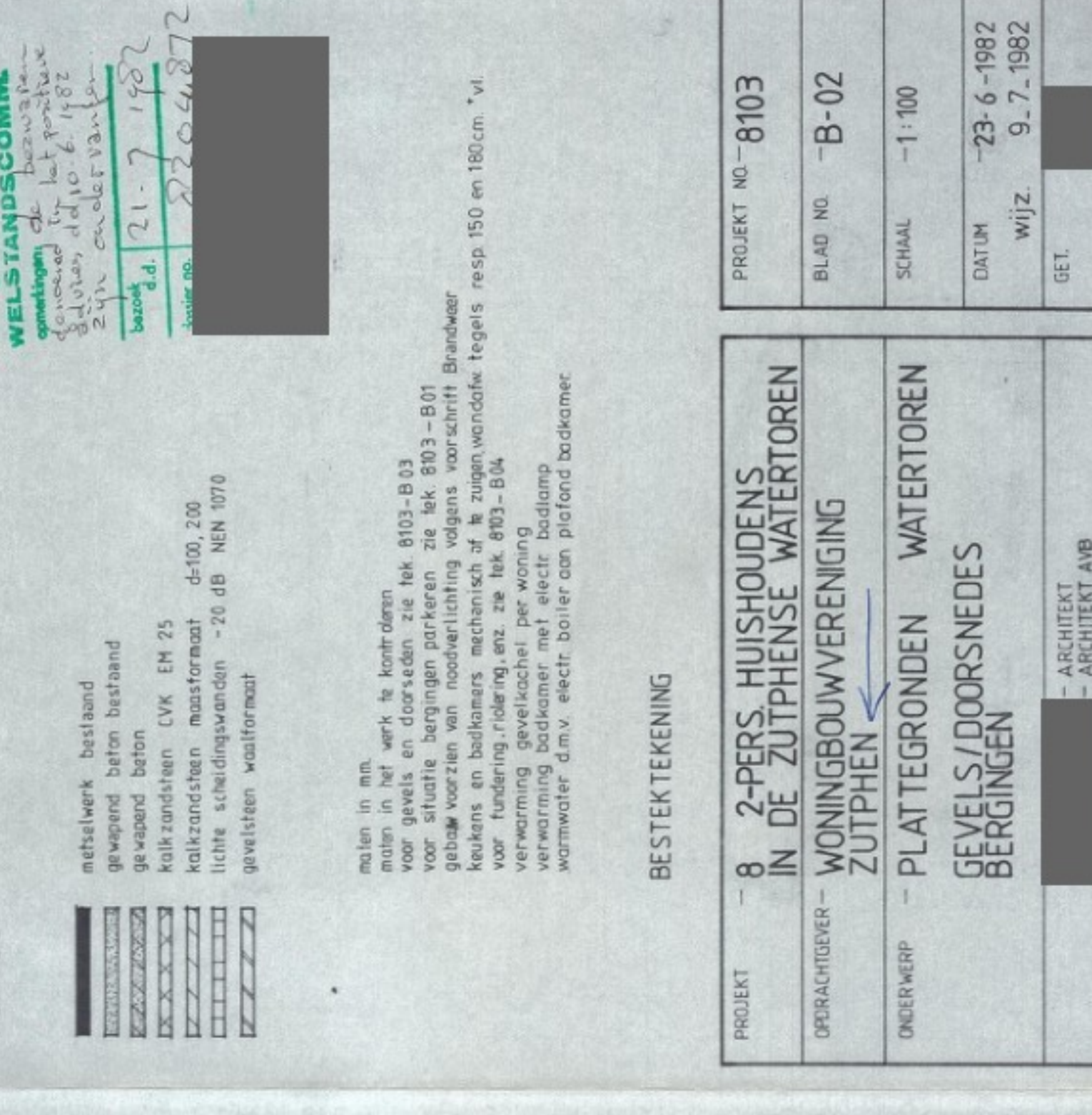
1e VERDIEPING



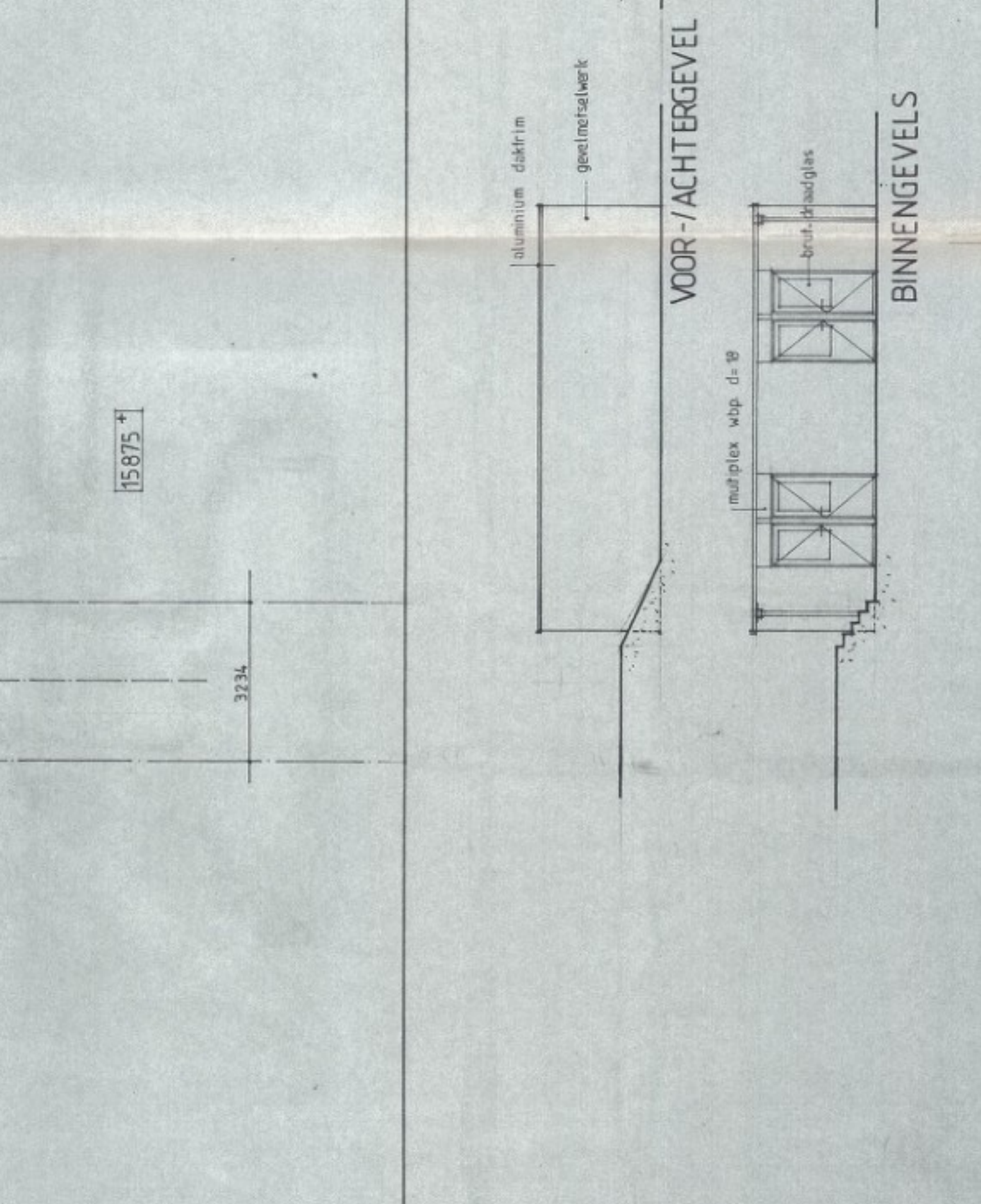
2e VERDIEPING



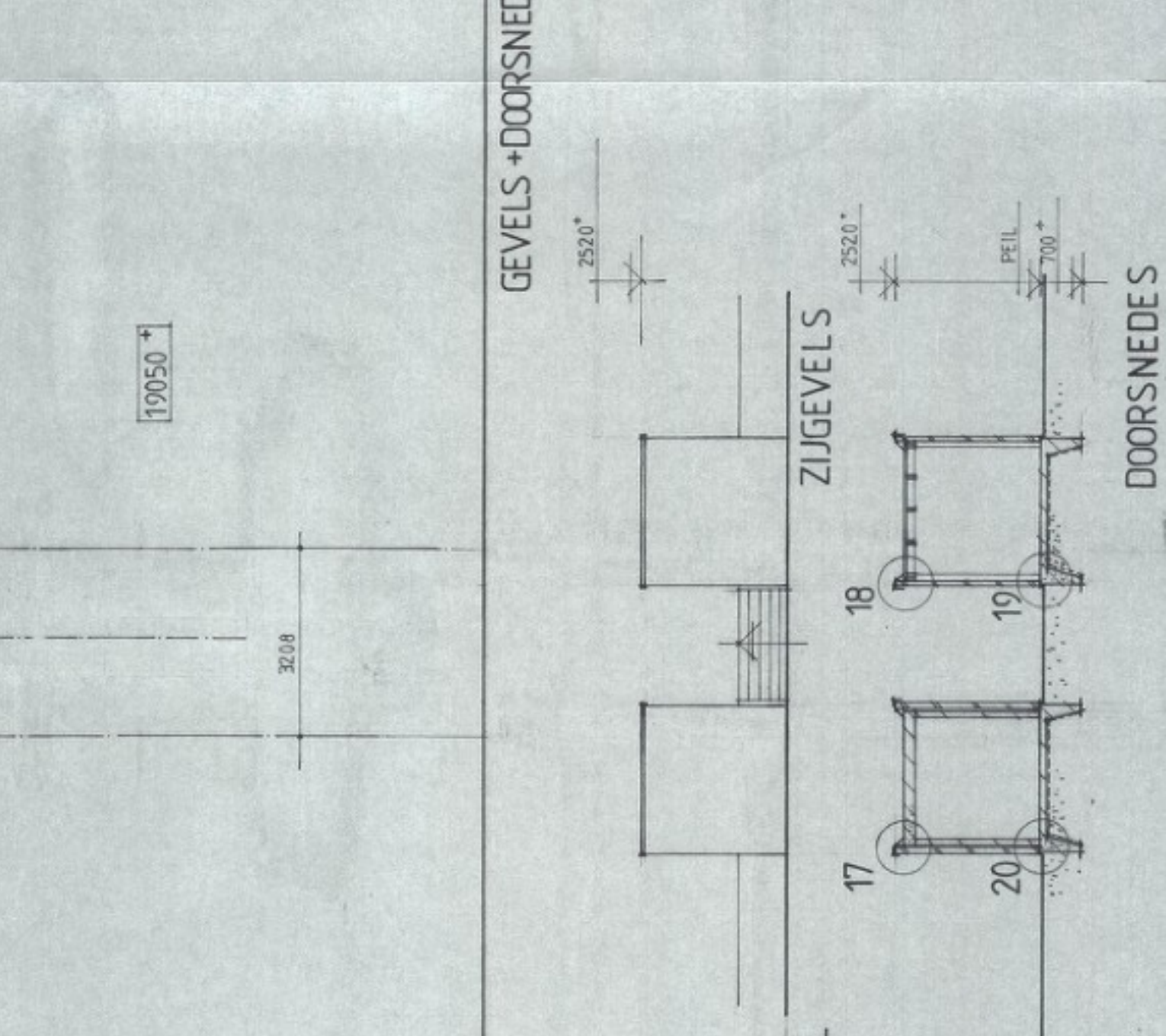
3e VERDIEPING



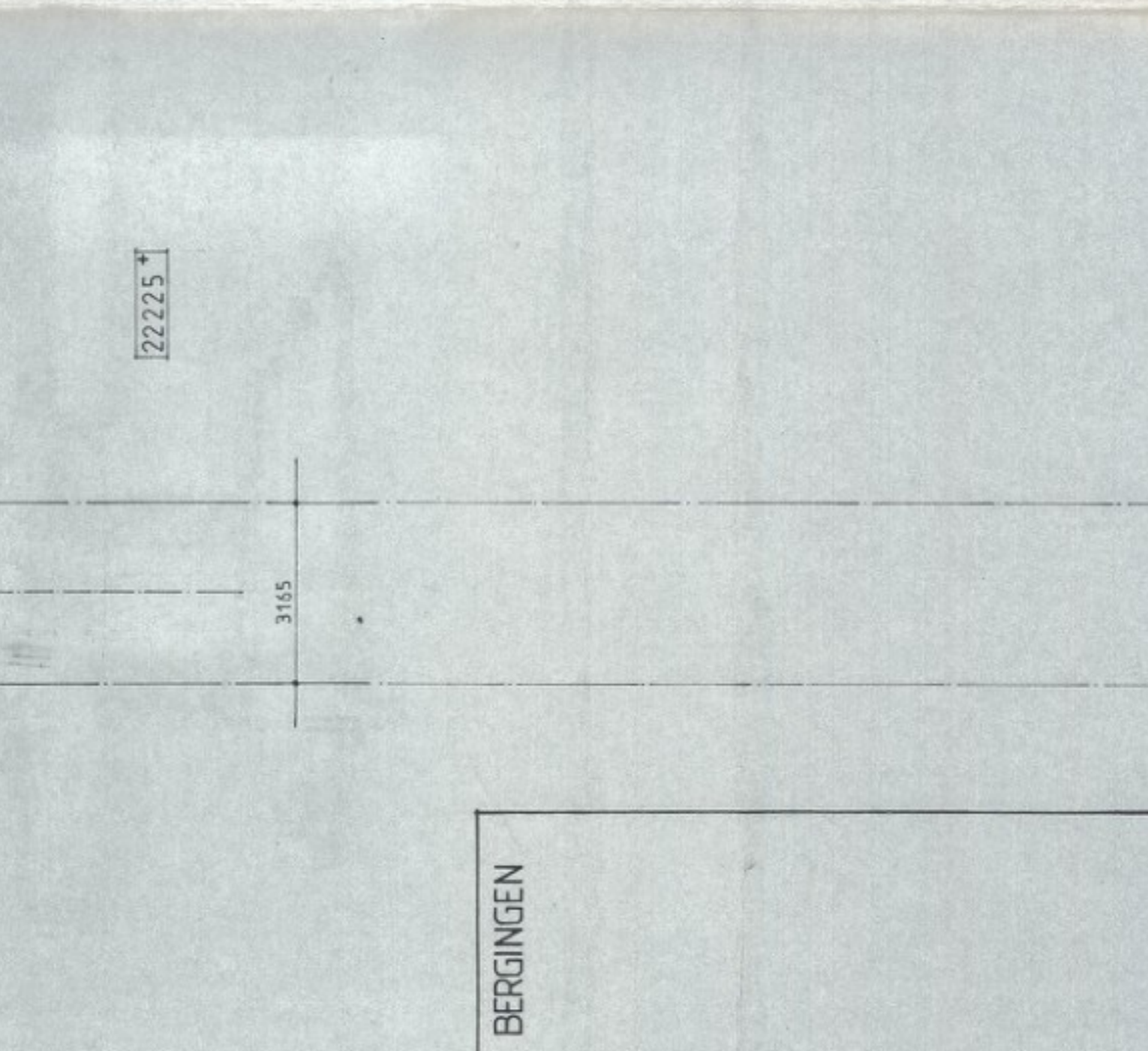
4e VERDIEPING



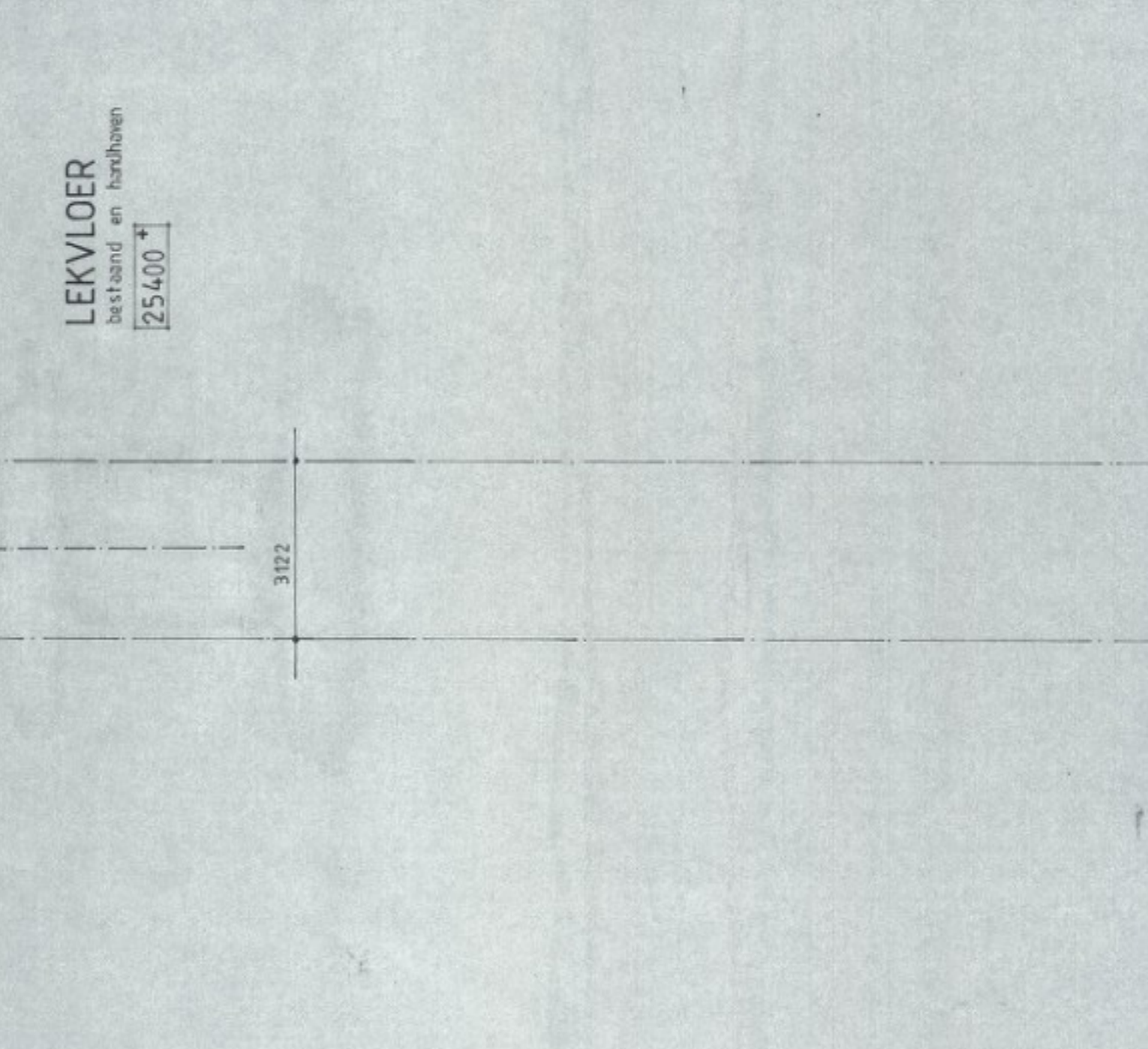
BEGANE GROND



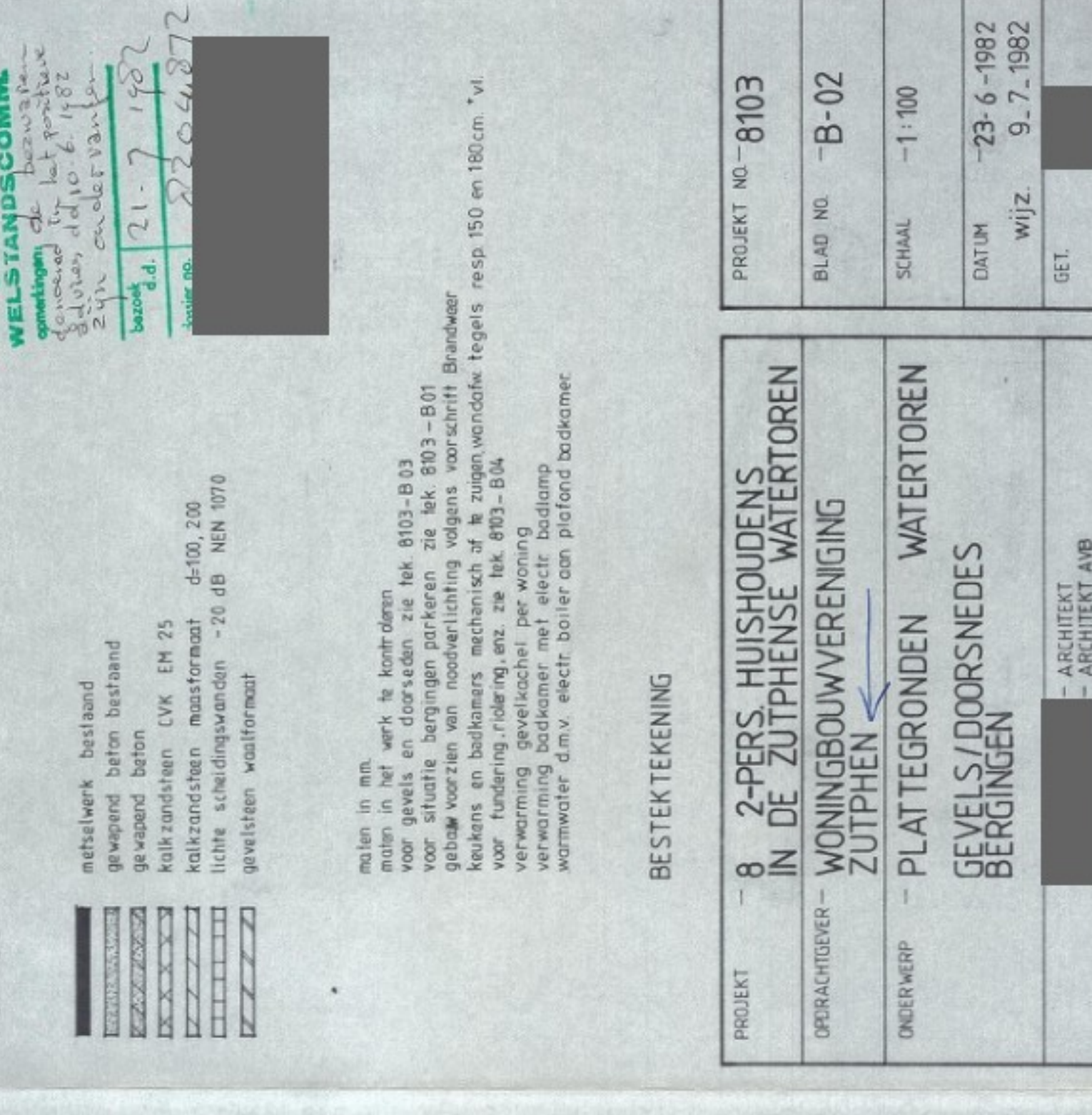
1e VERDIEPING



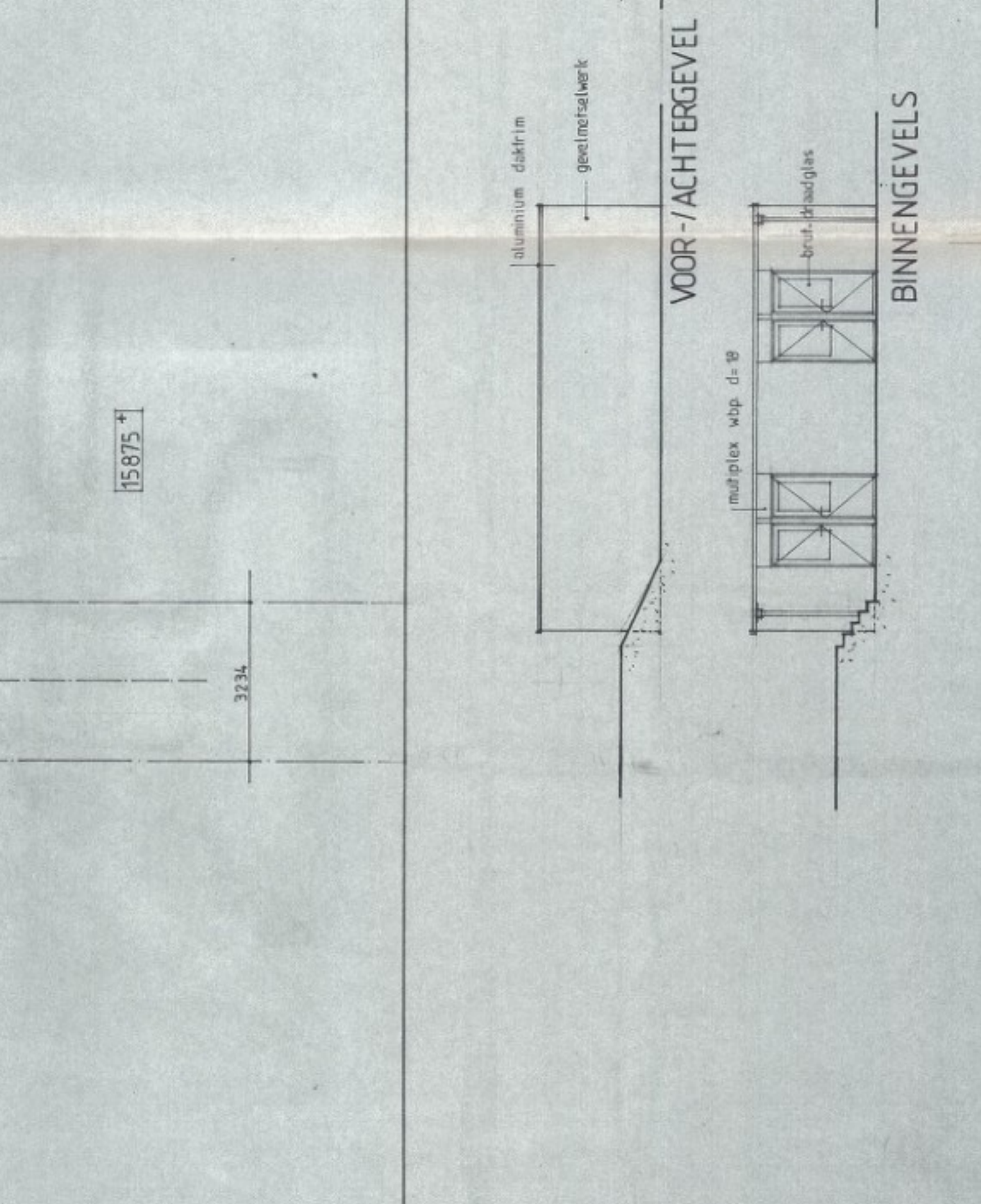
2e VERDIEPING



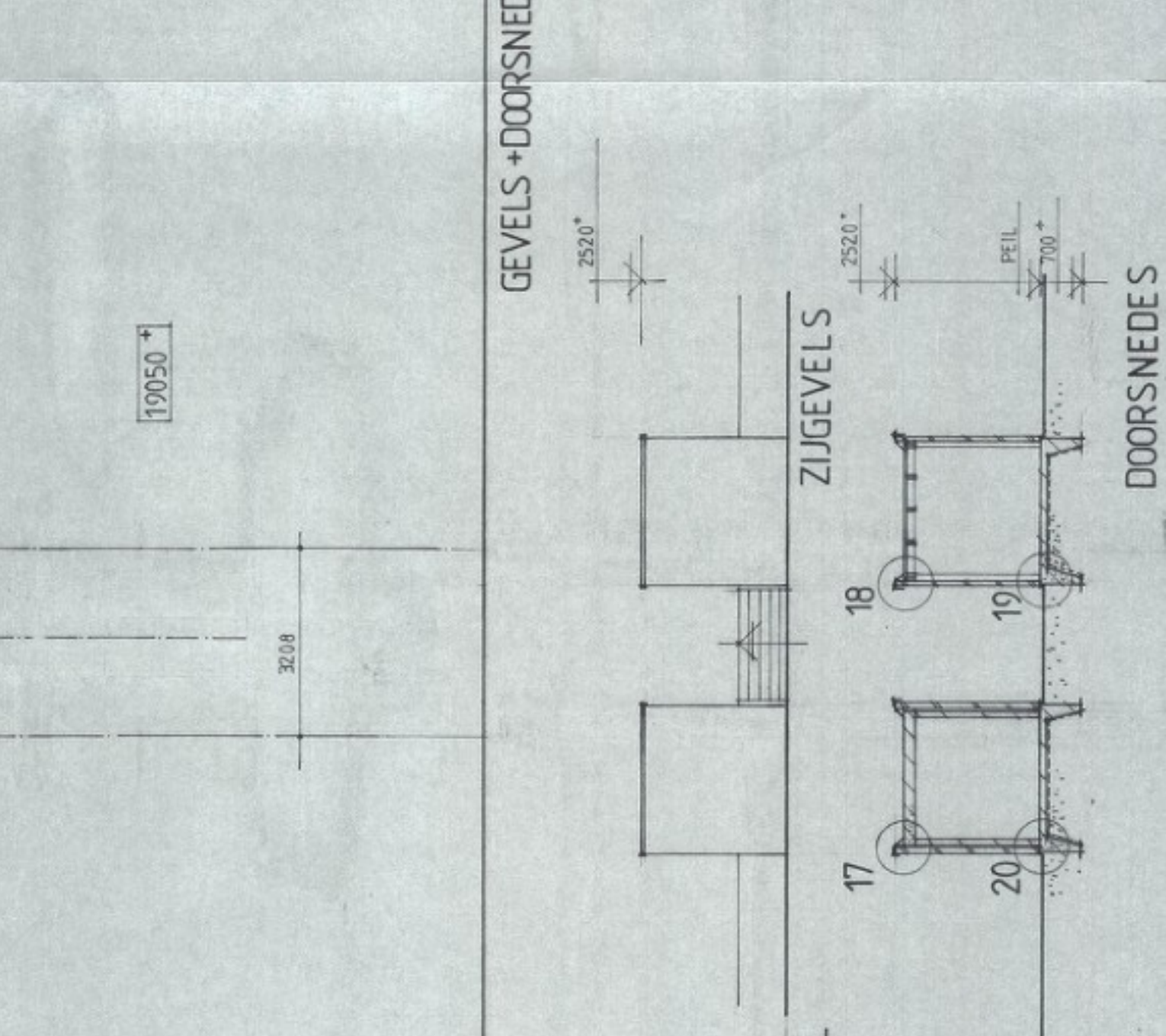
3e VERDIEPING



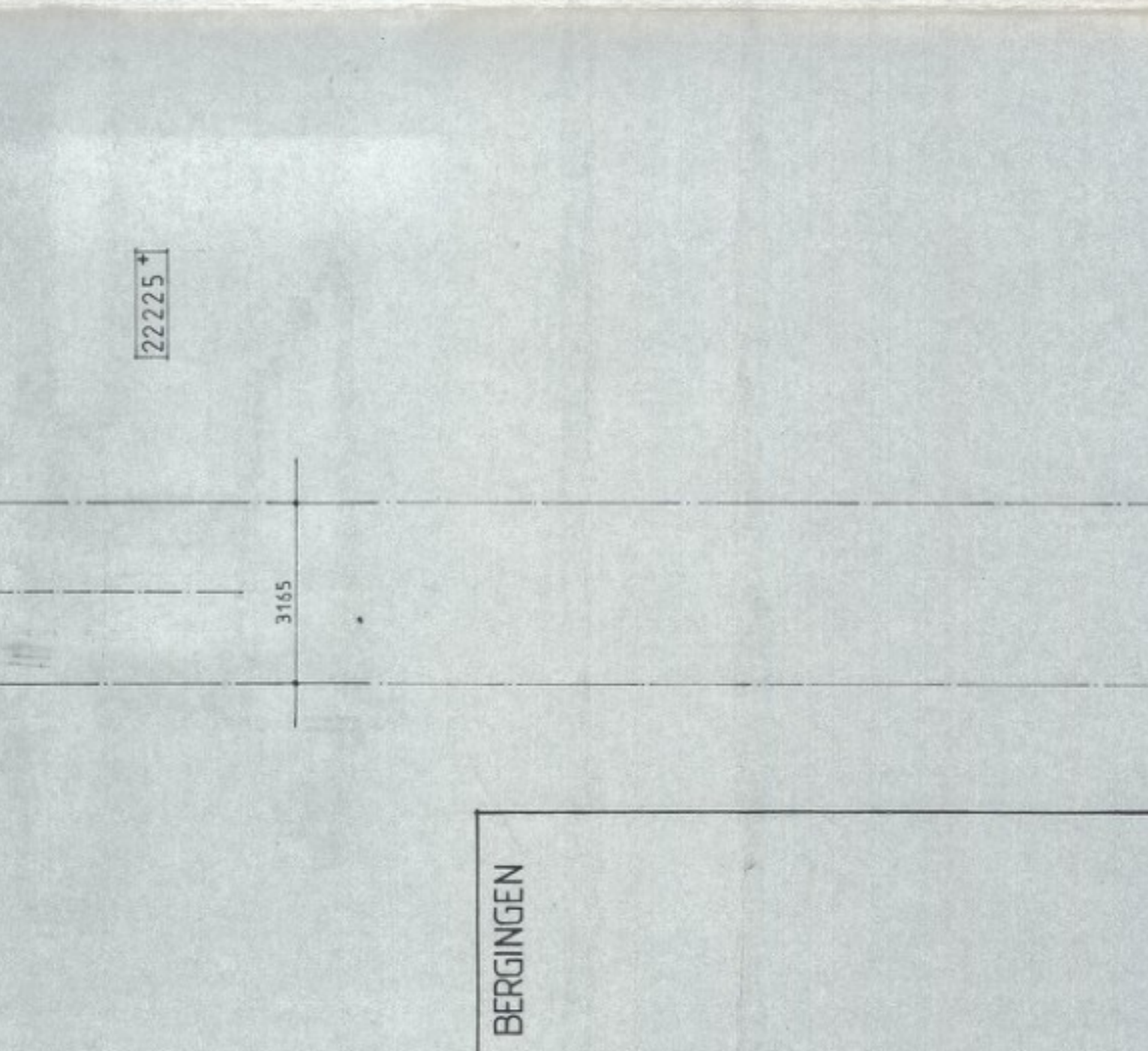
4e VERDIEPING



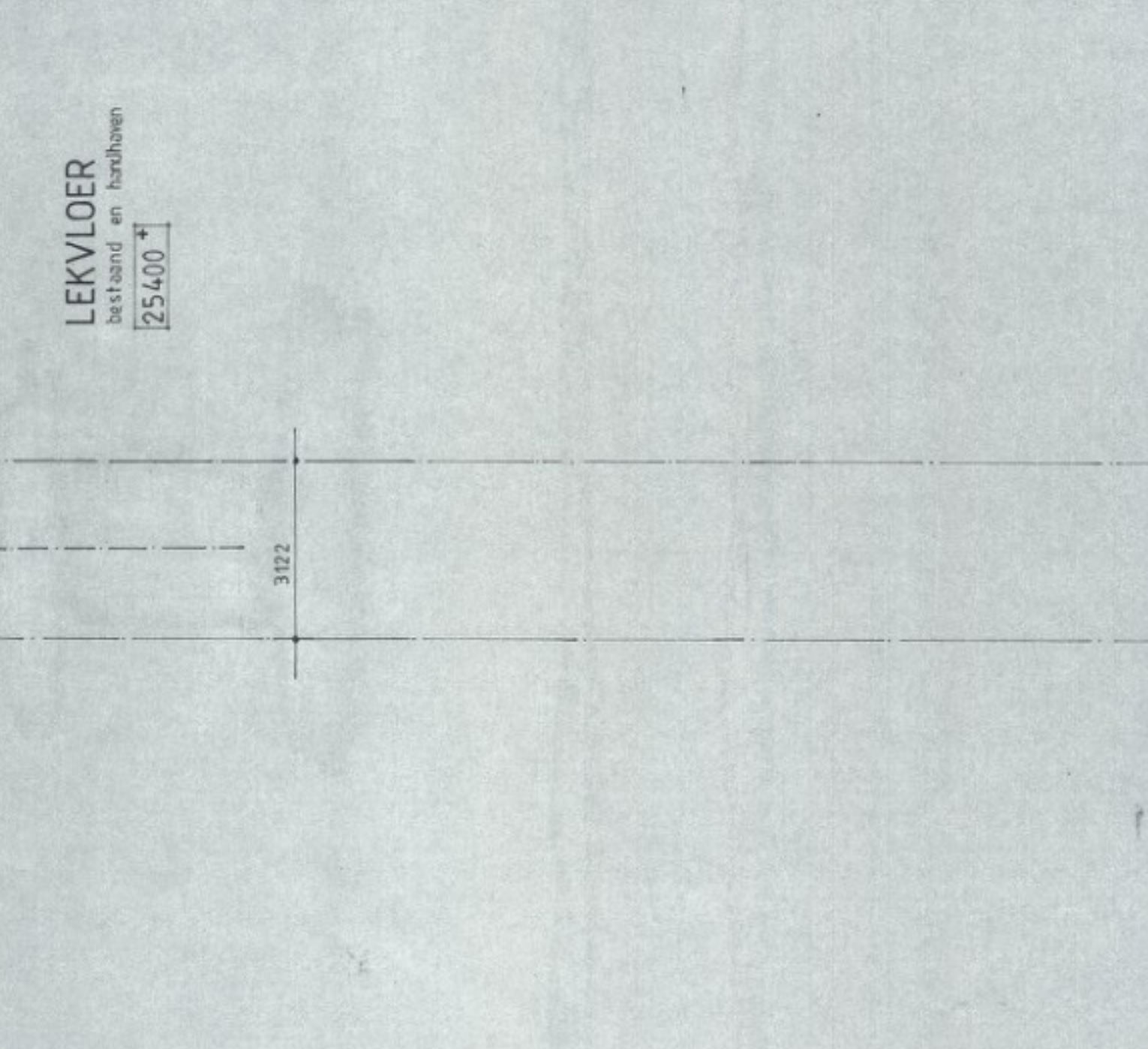
BEGANE GROND



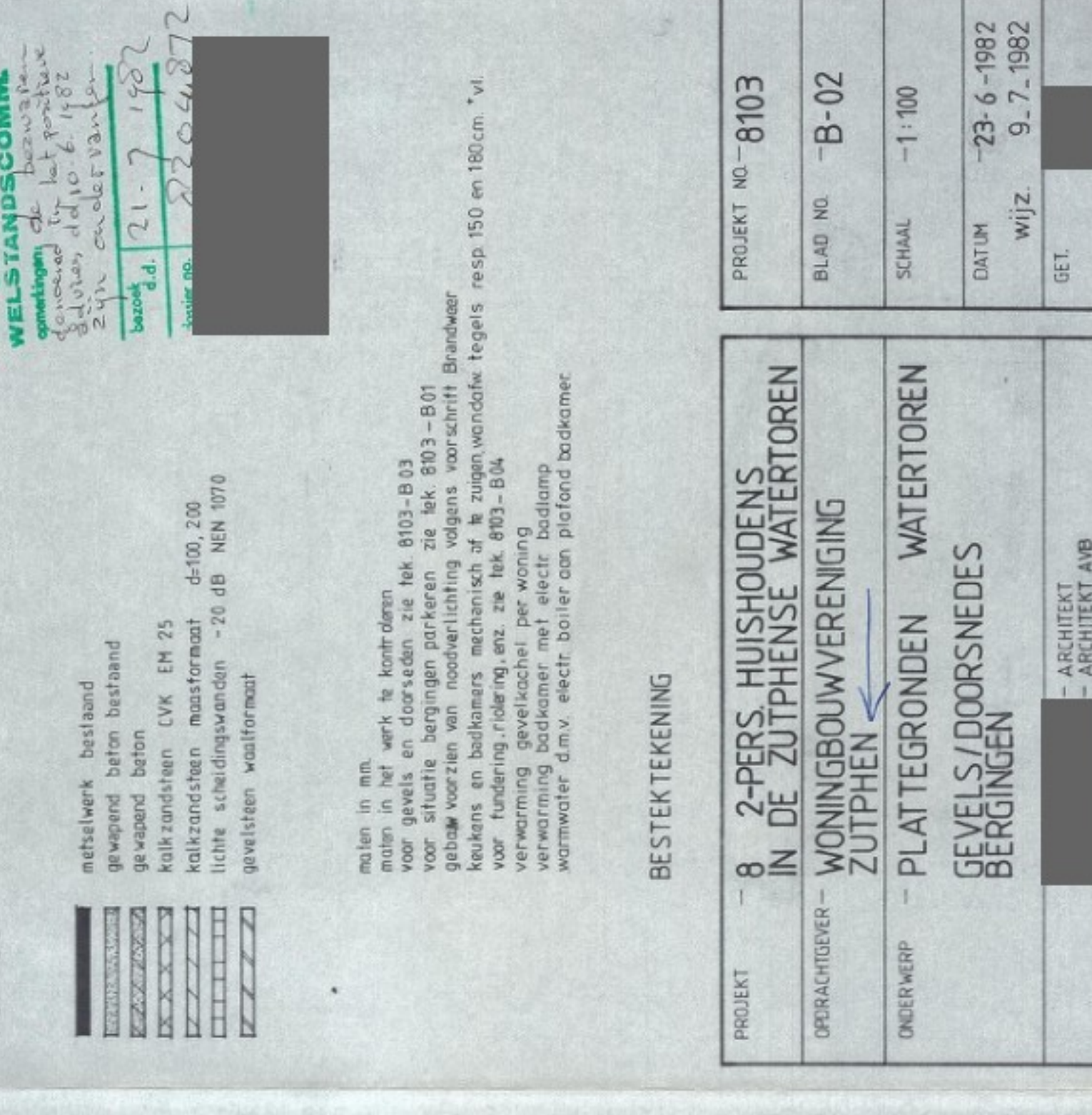
1e VERDIEPING



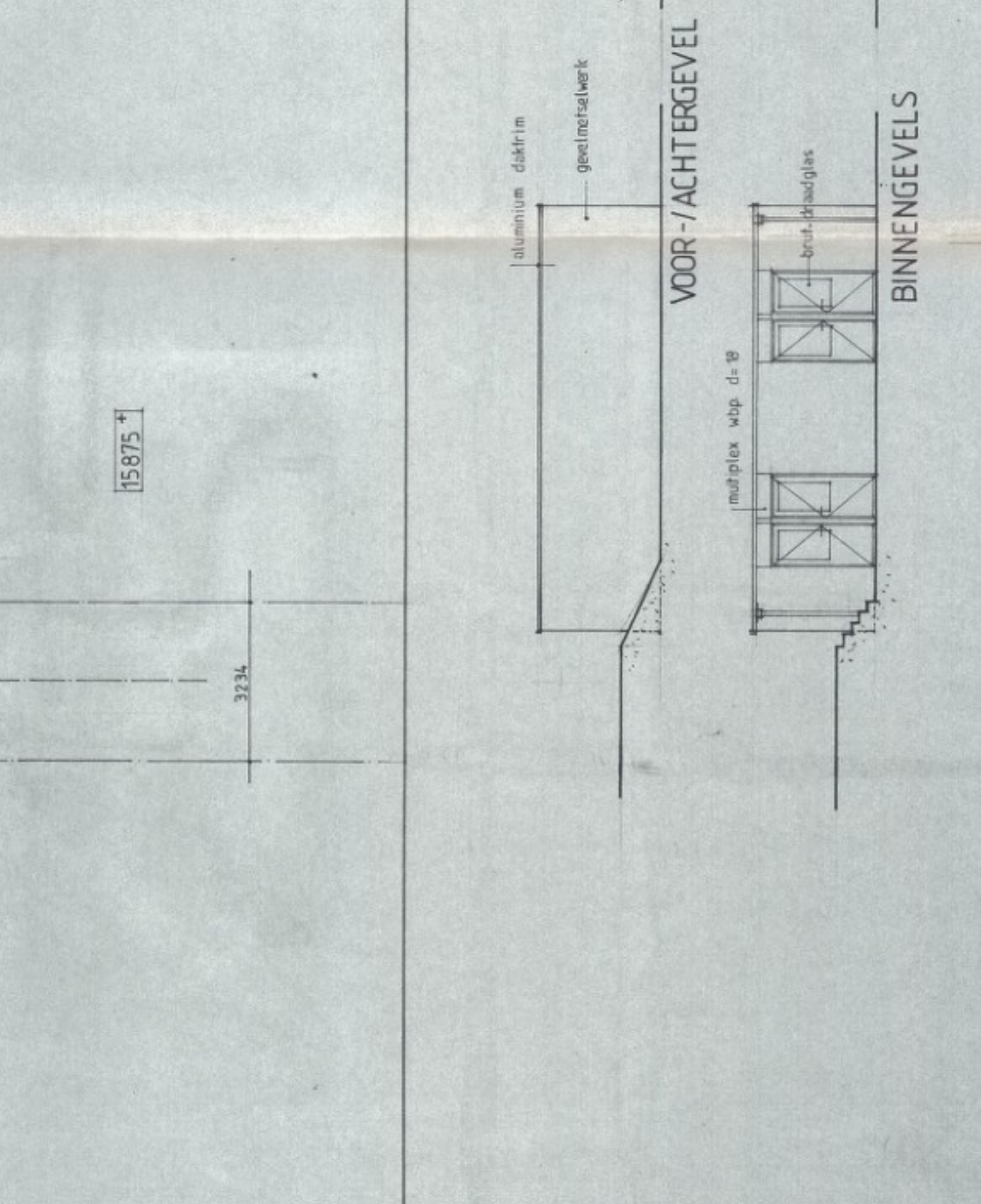
2e VERDIEPING



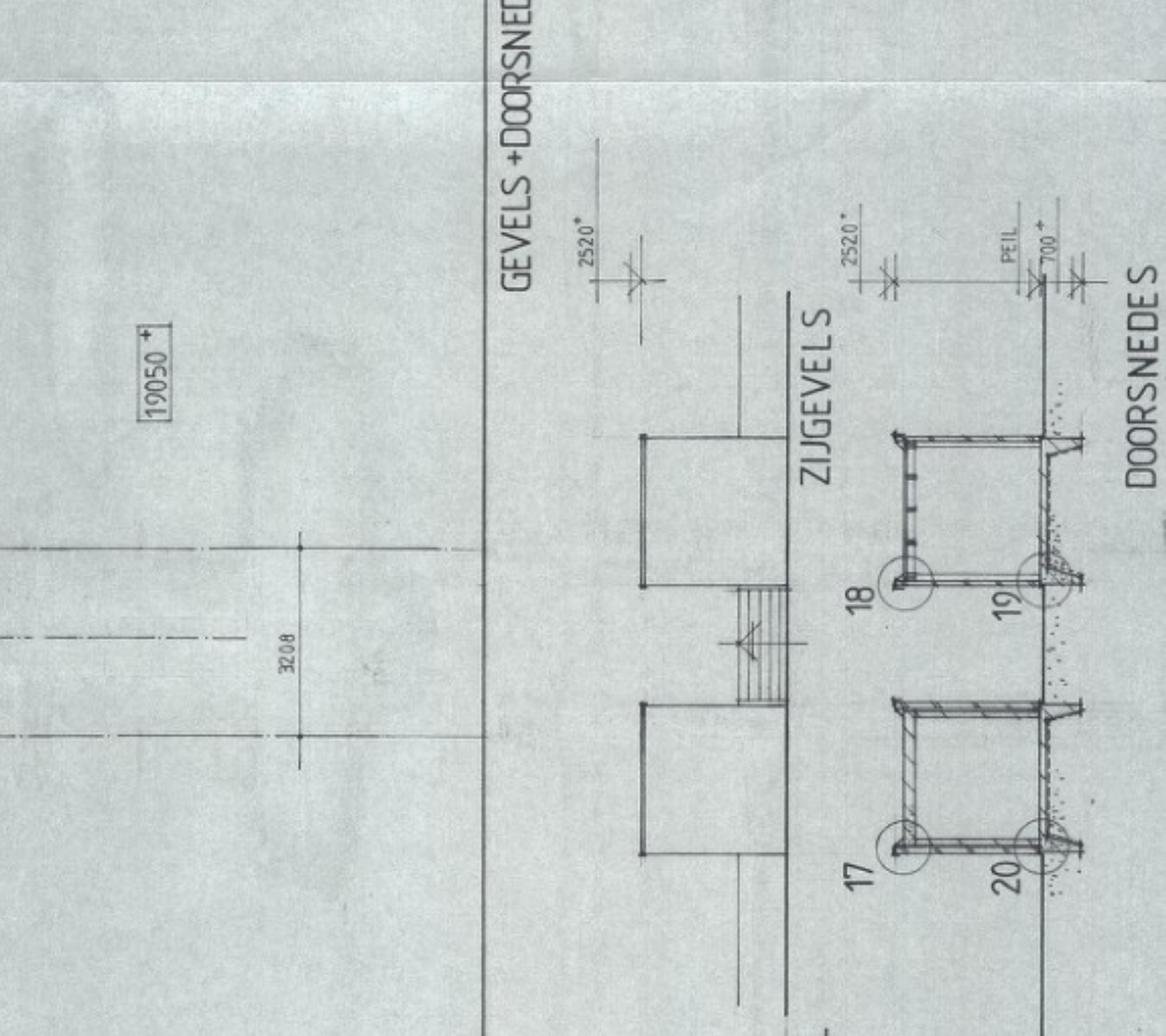
3e VERDIEPING



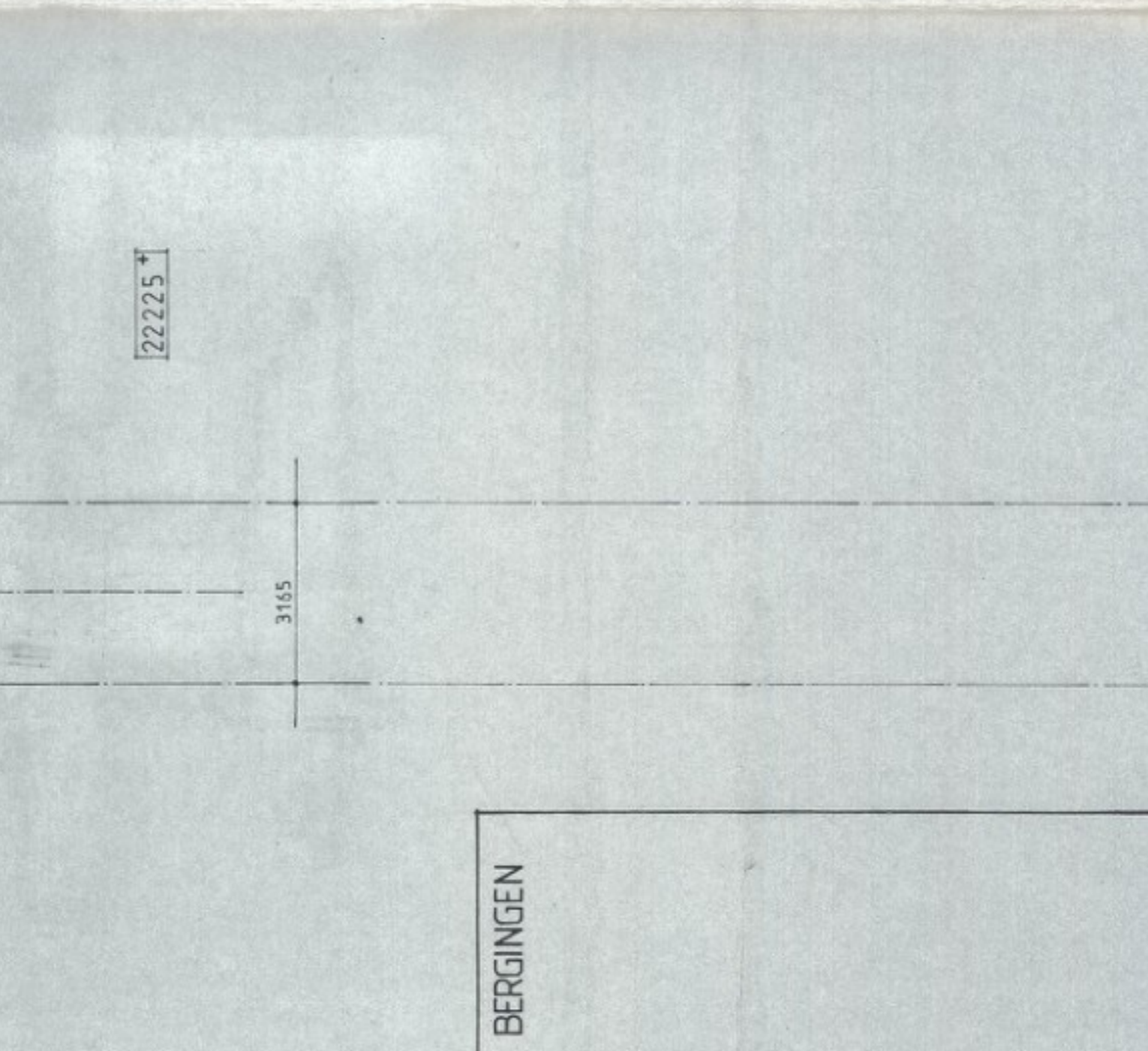
4e VERDIEPING



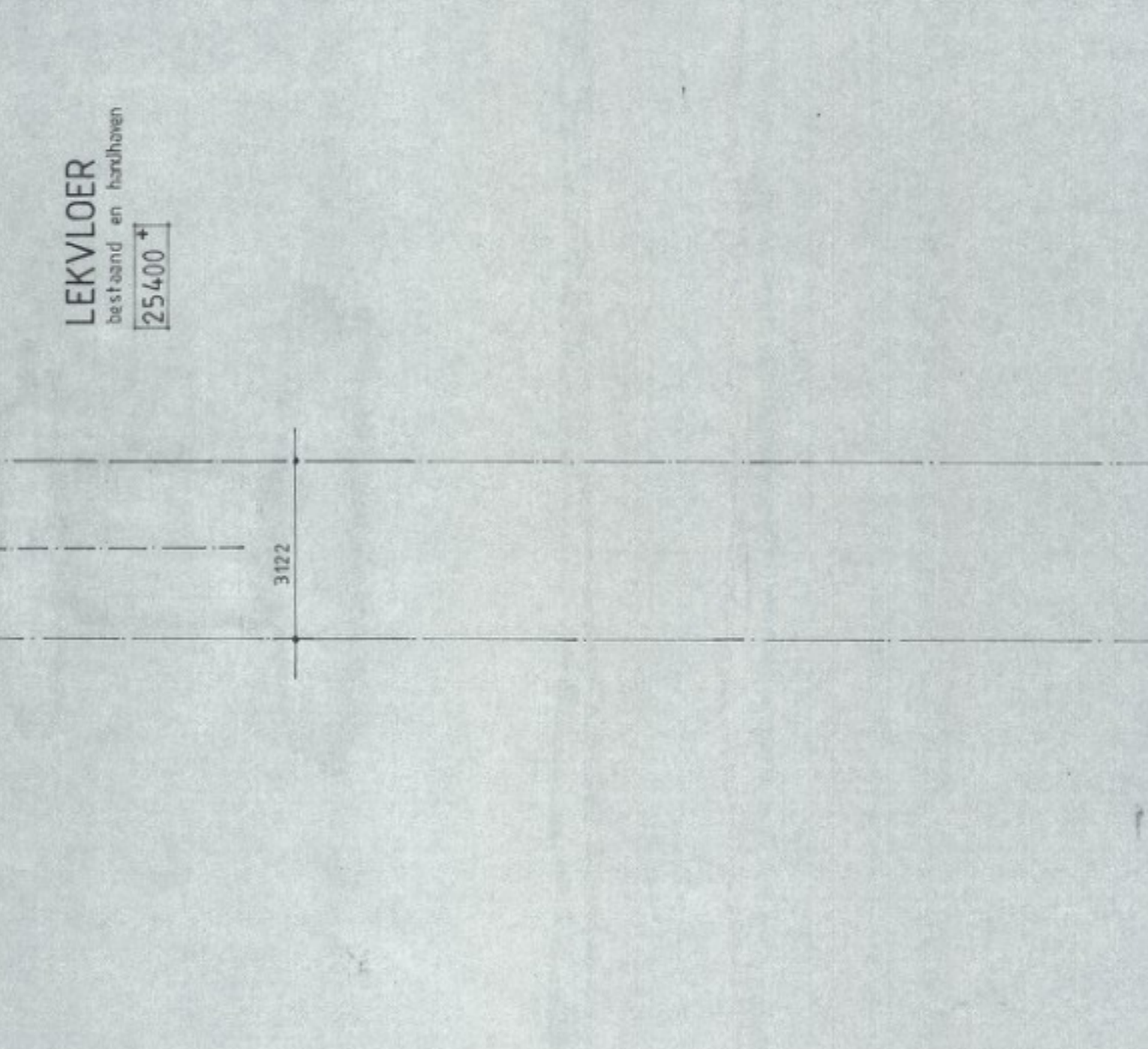
BEGANE GROND



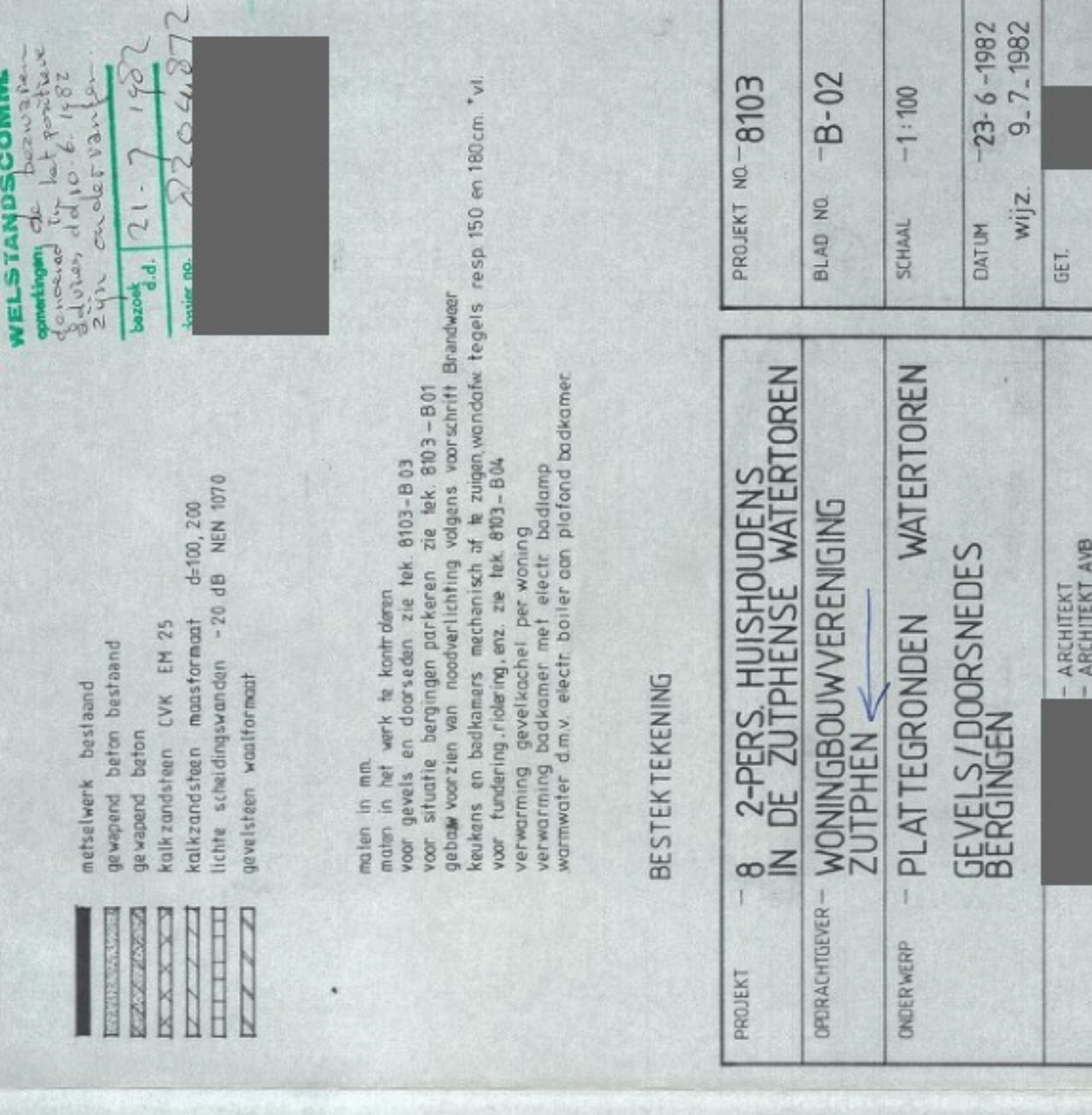
1e VERDIEPING



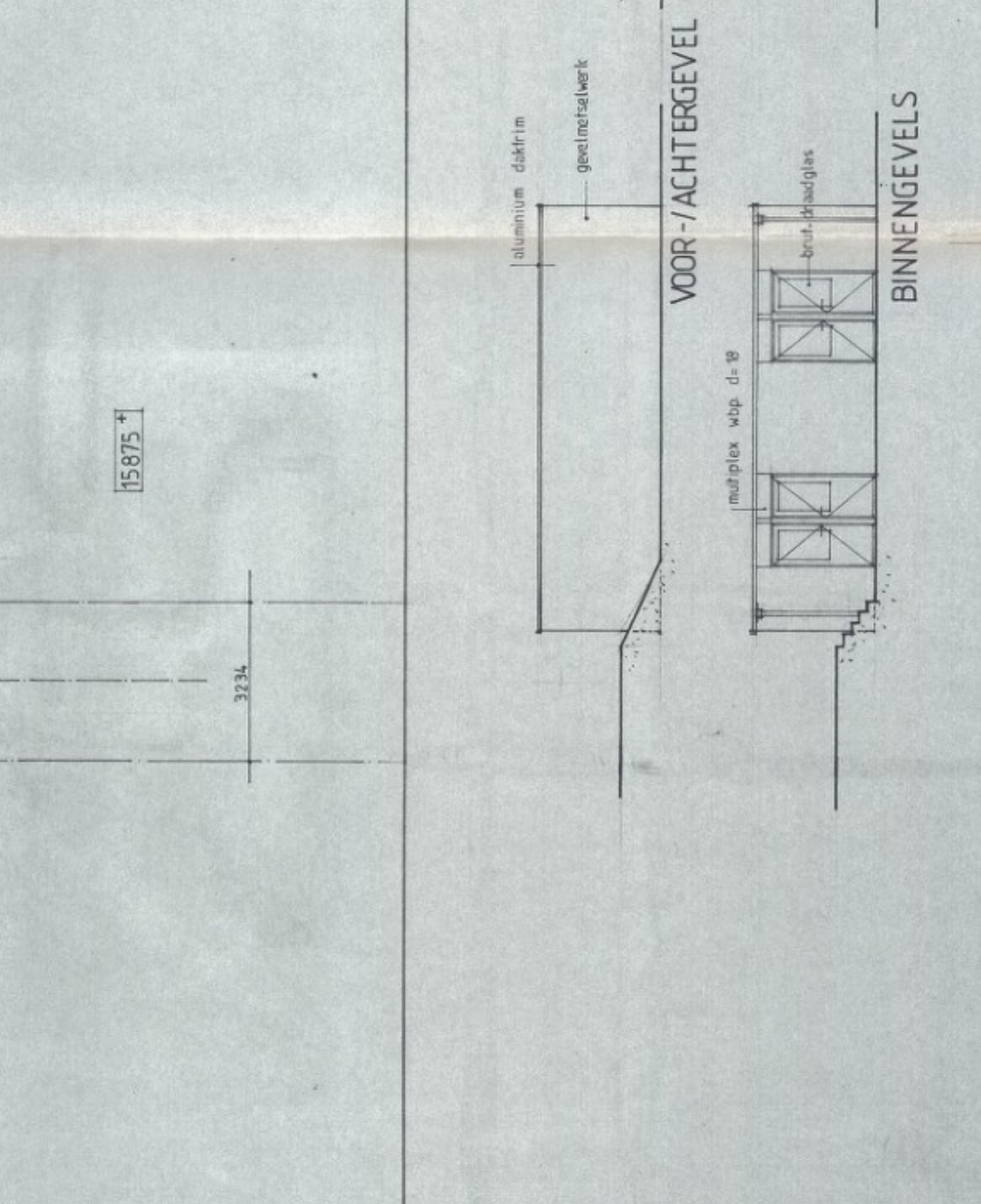
2e VERDIEPING



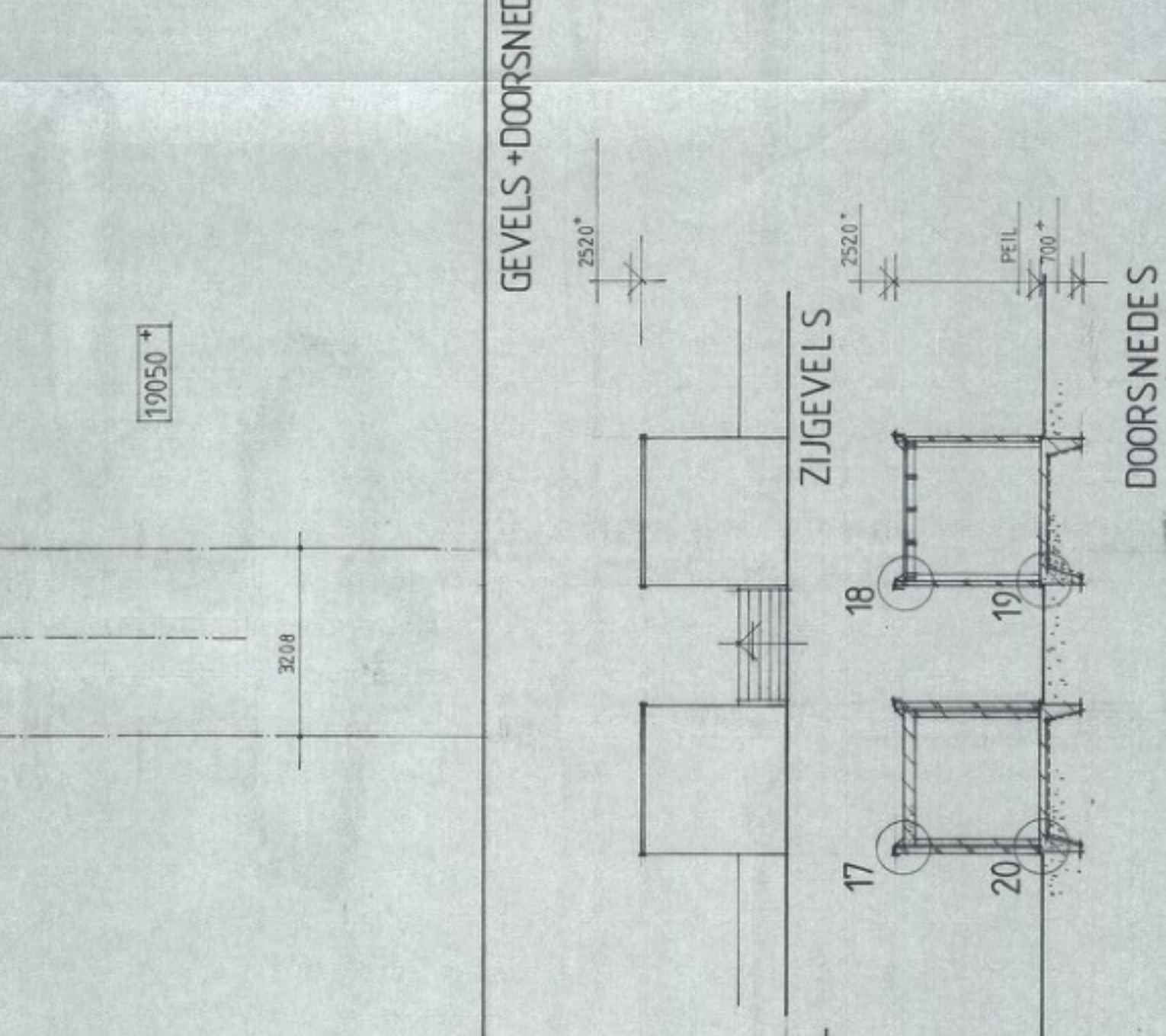
3e VERDIEPING



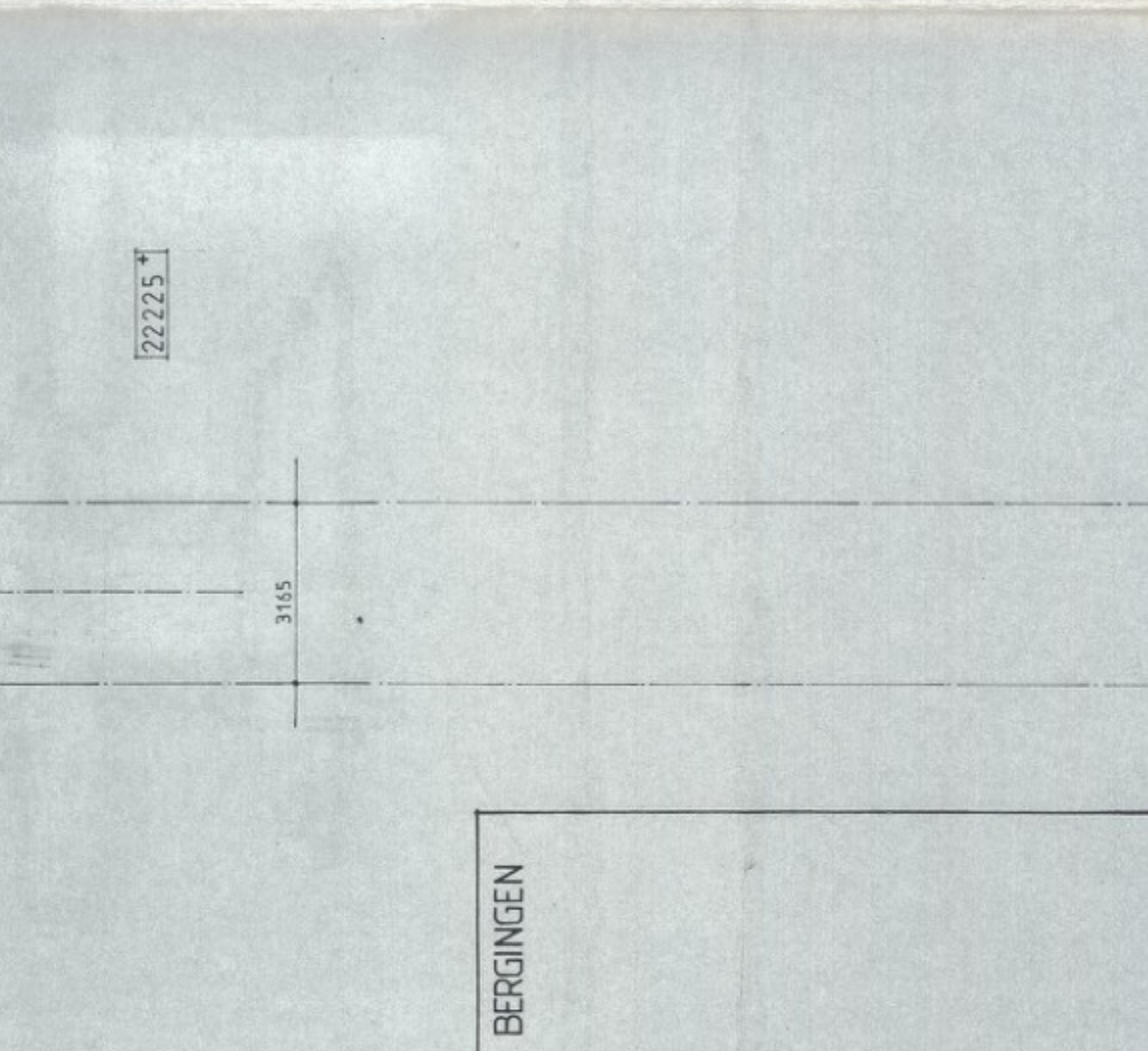
4e VERDIEPING



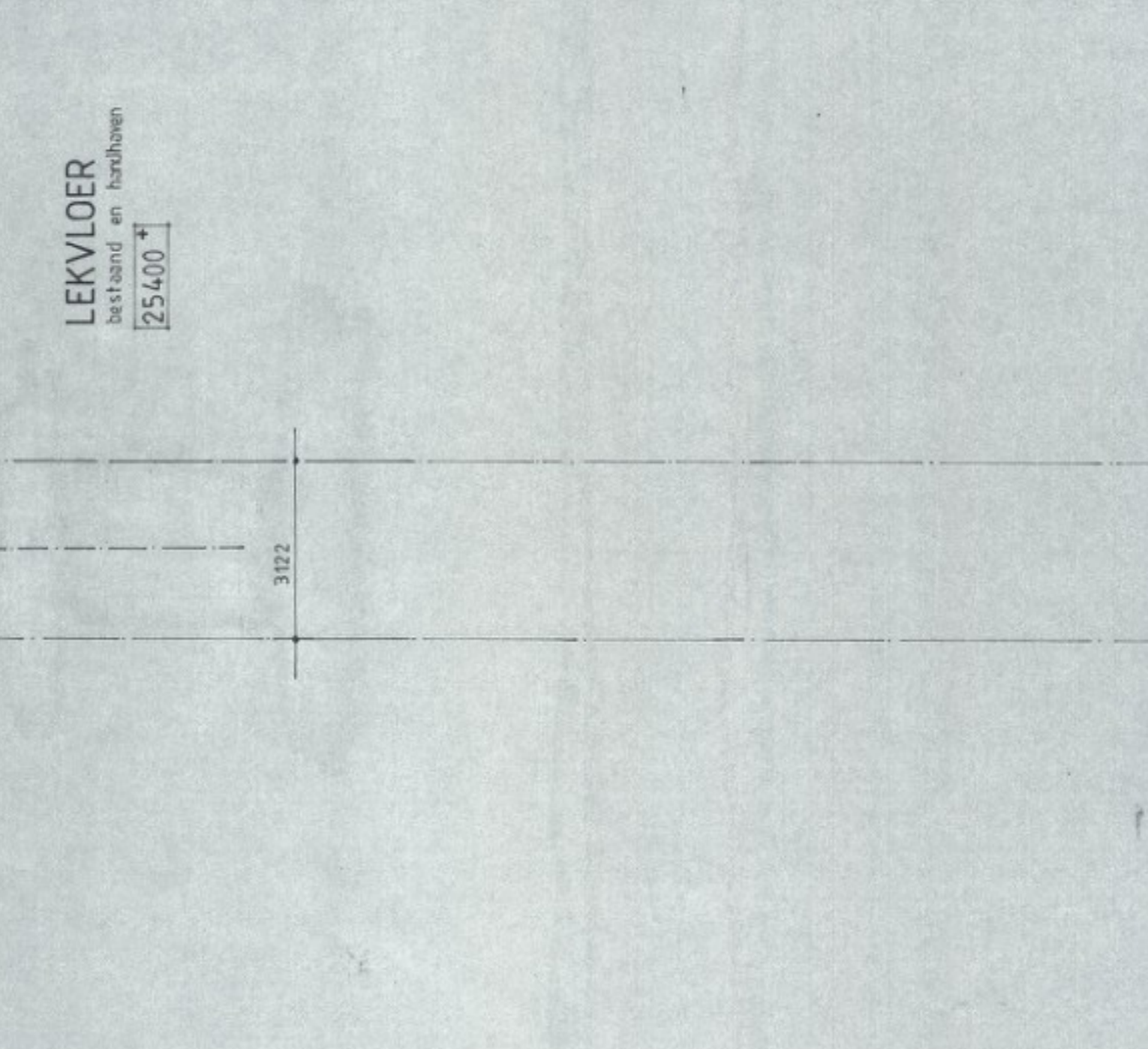
BEGANE GROND



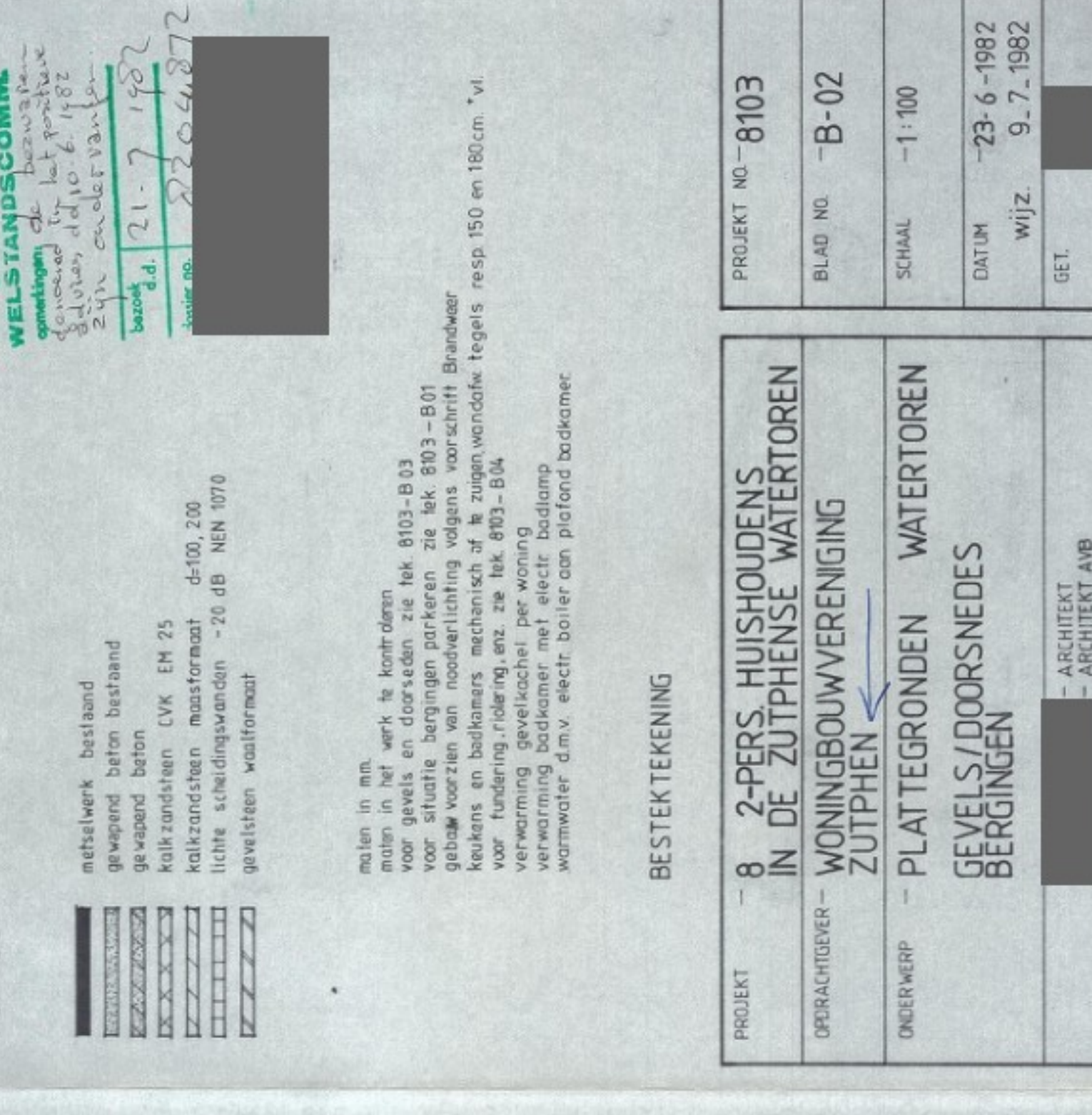
1e VERDIEPING



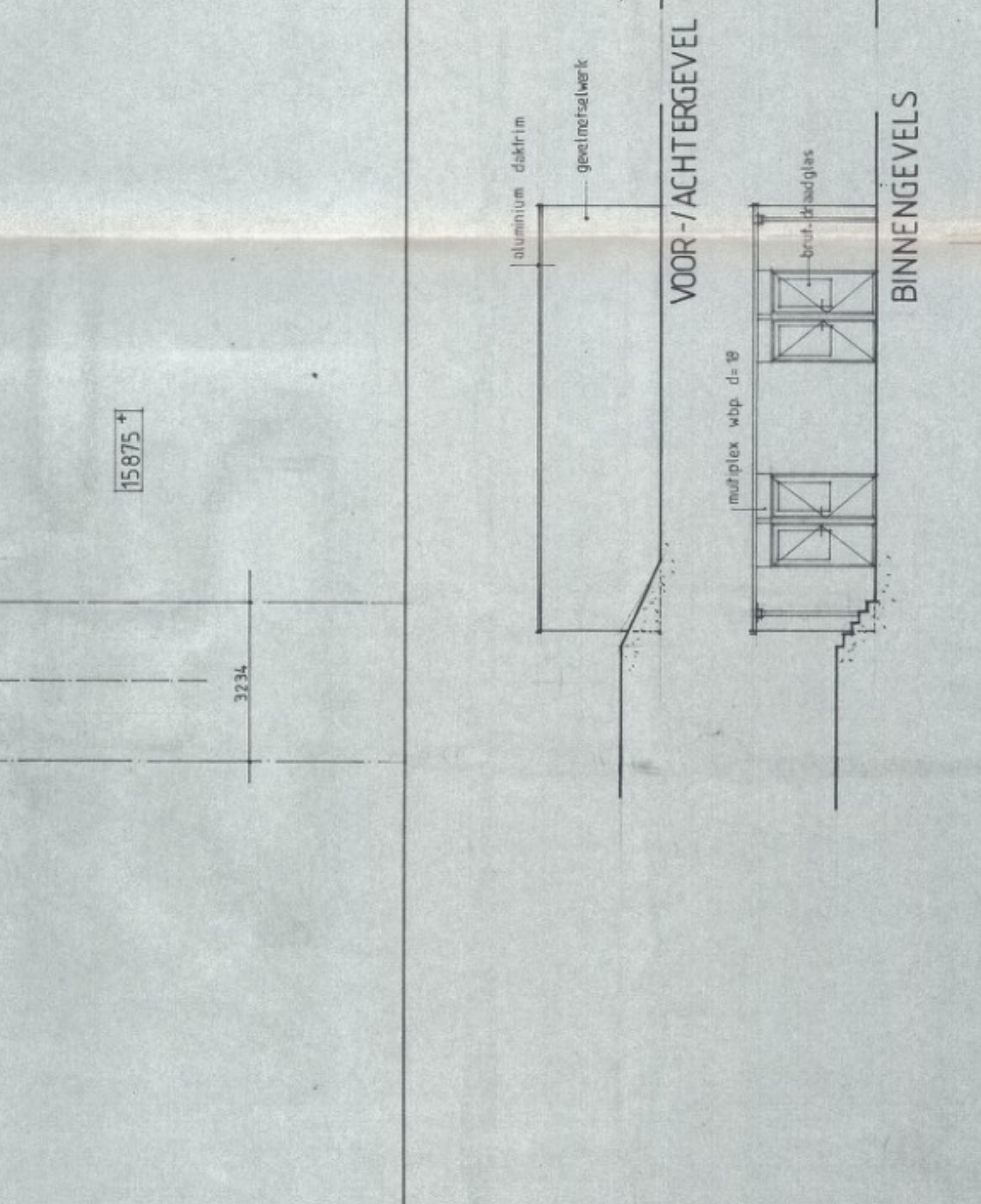
2e VERDIEPING



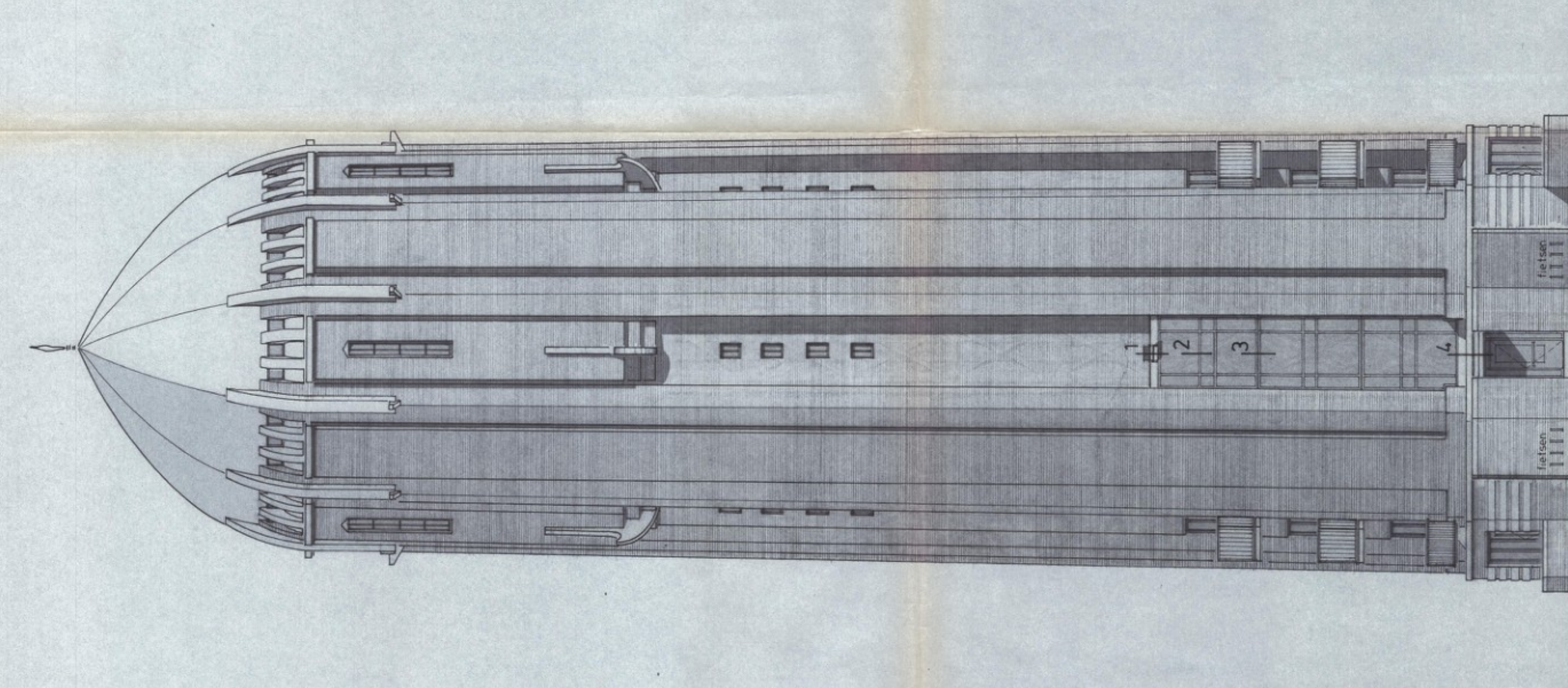
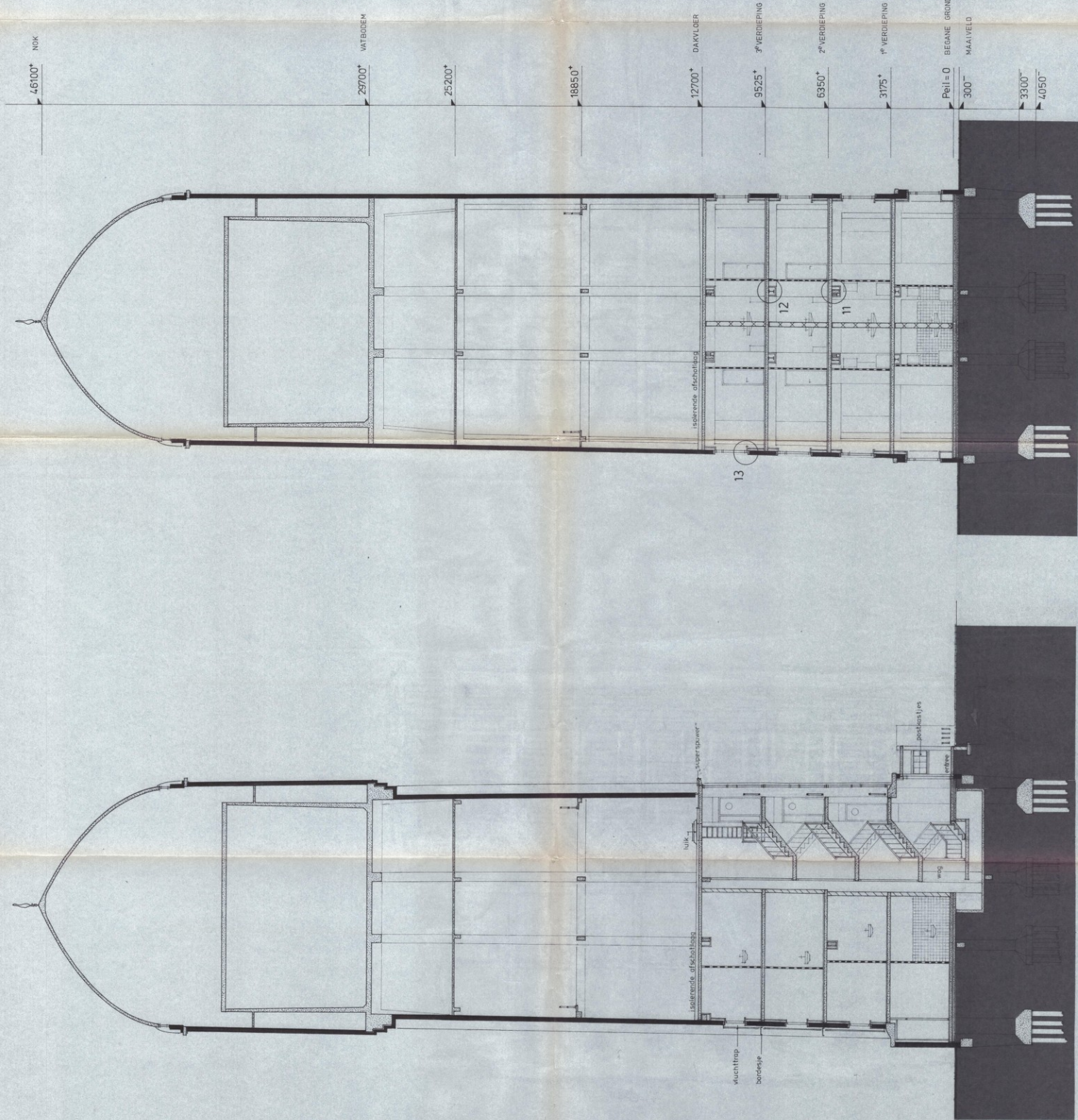
3e VERDIEPING



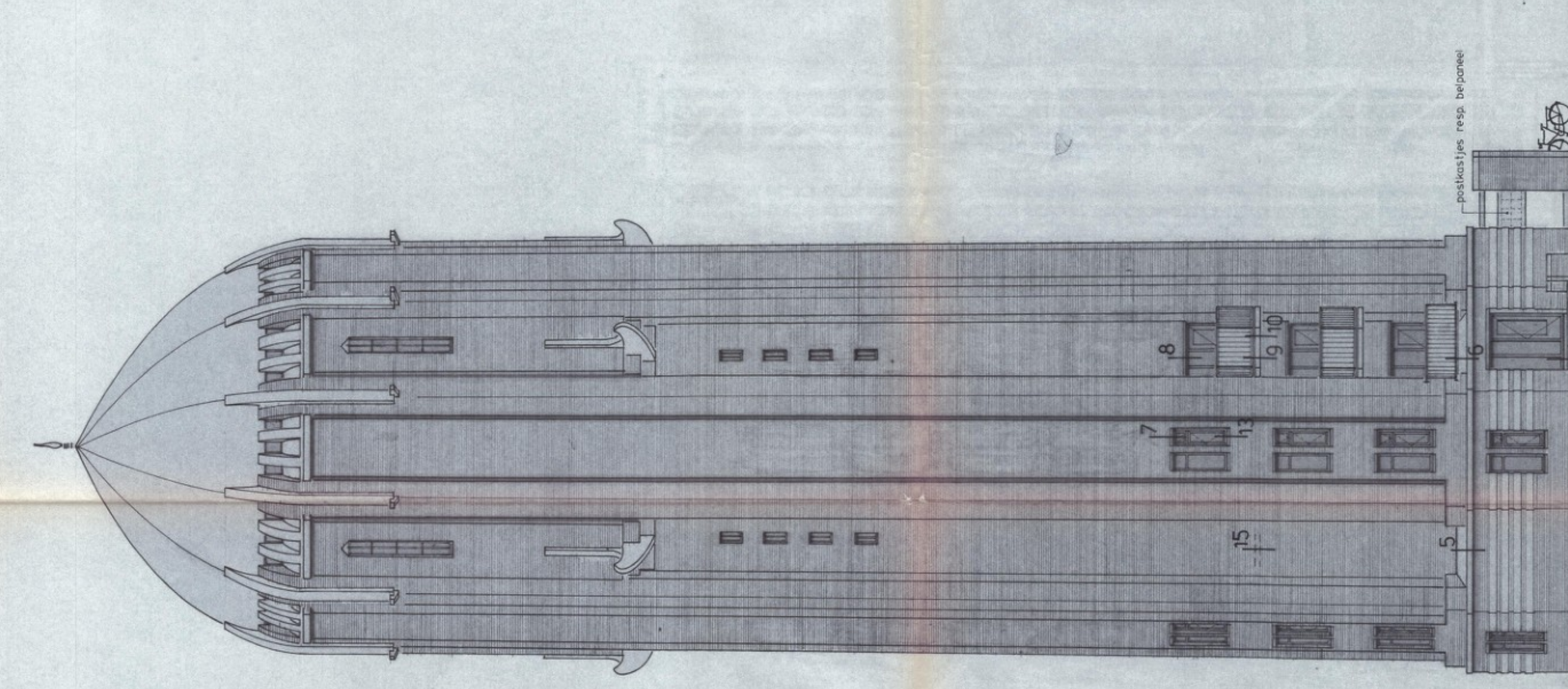
4e VERDIEPING



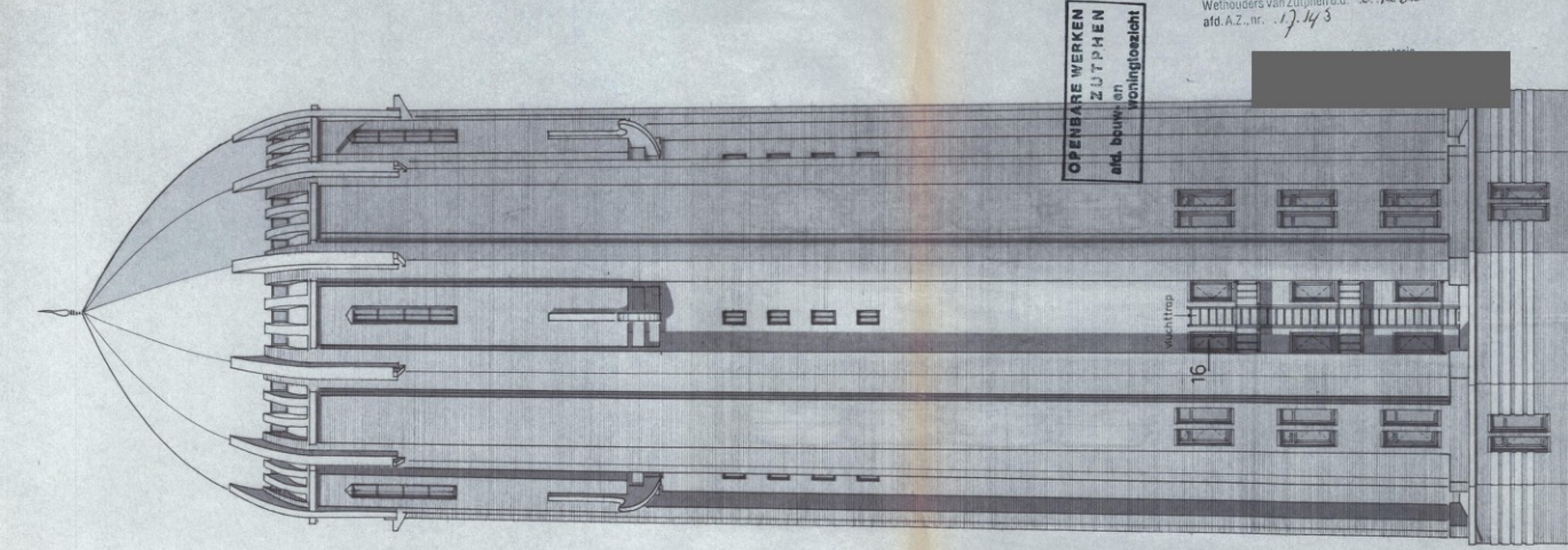
BEGANE GROND



VOORGEVEL WAKSVELDSEKEDZIDE



LINKER ZIJGEVEL BERKELZIJDE

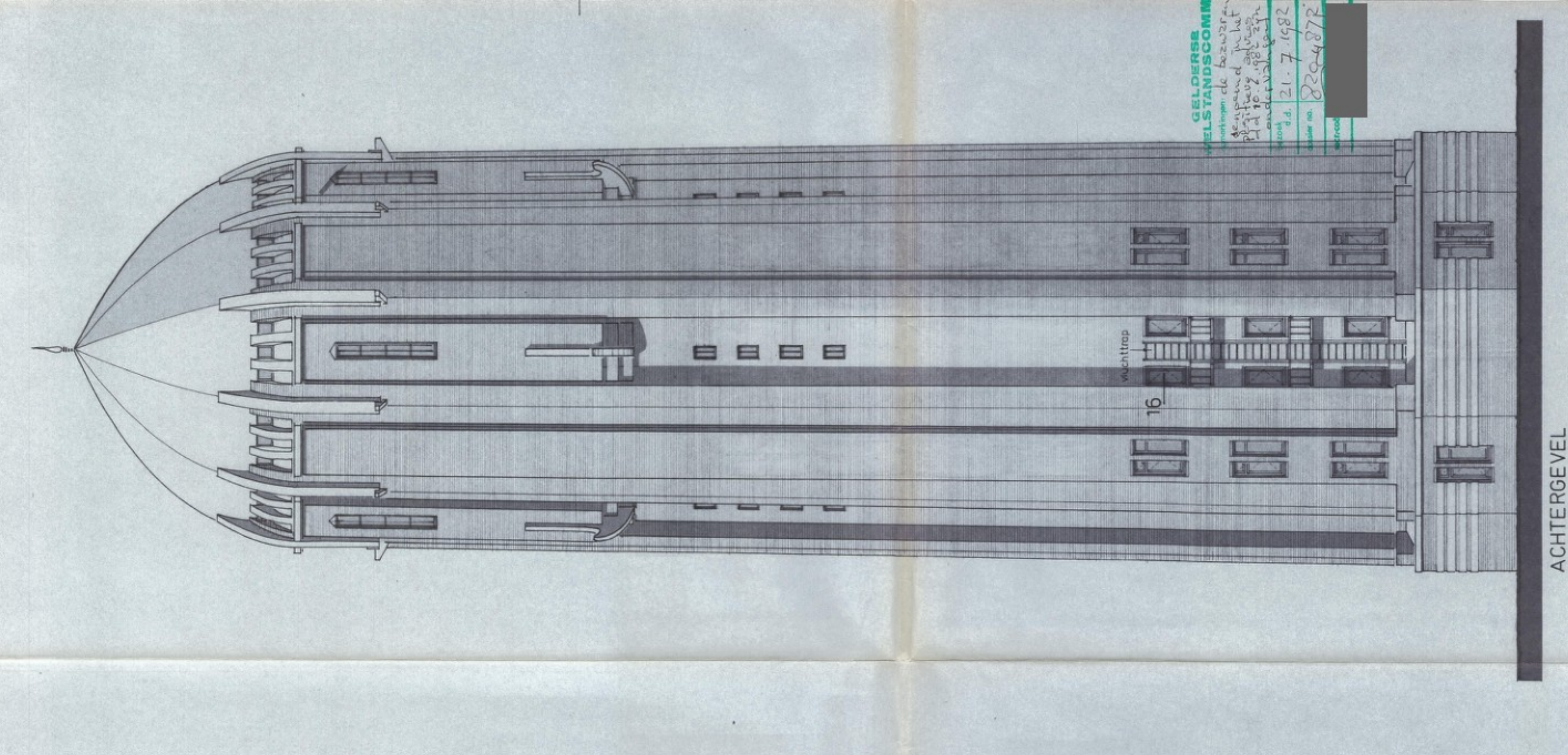
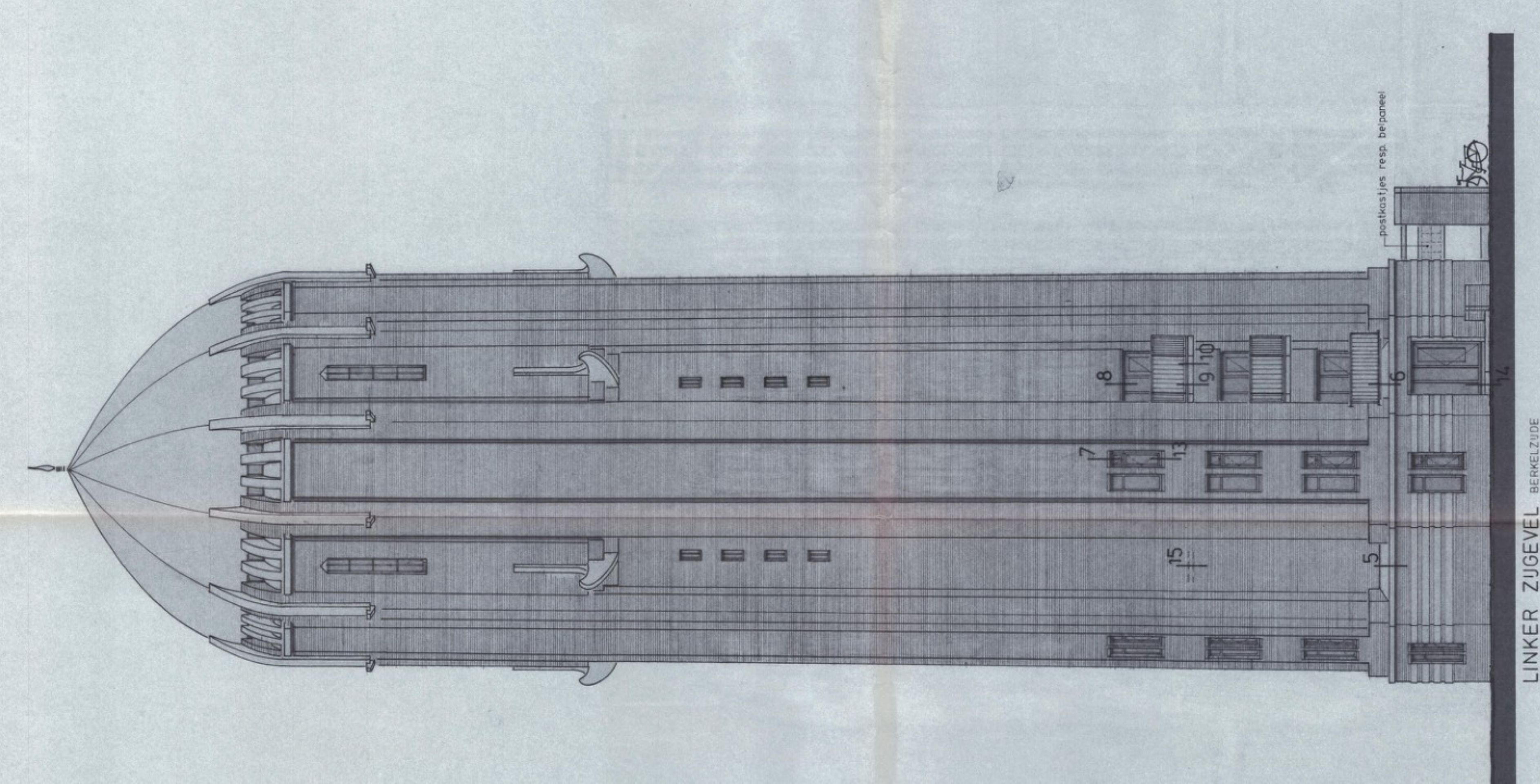
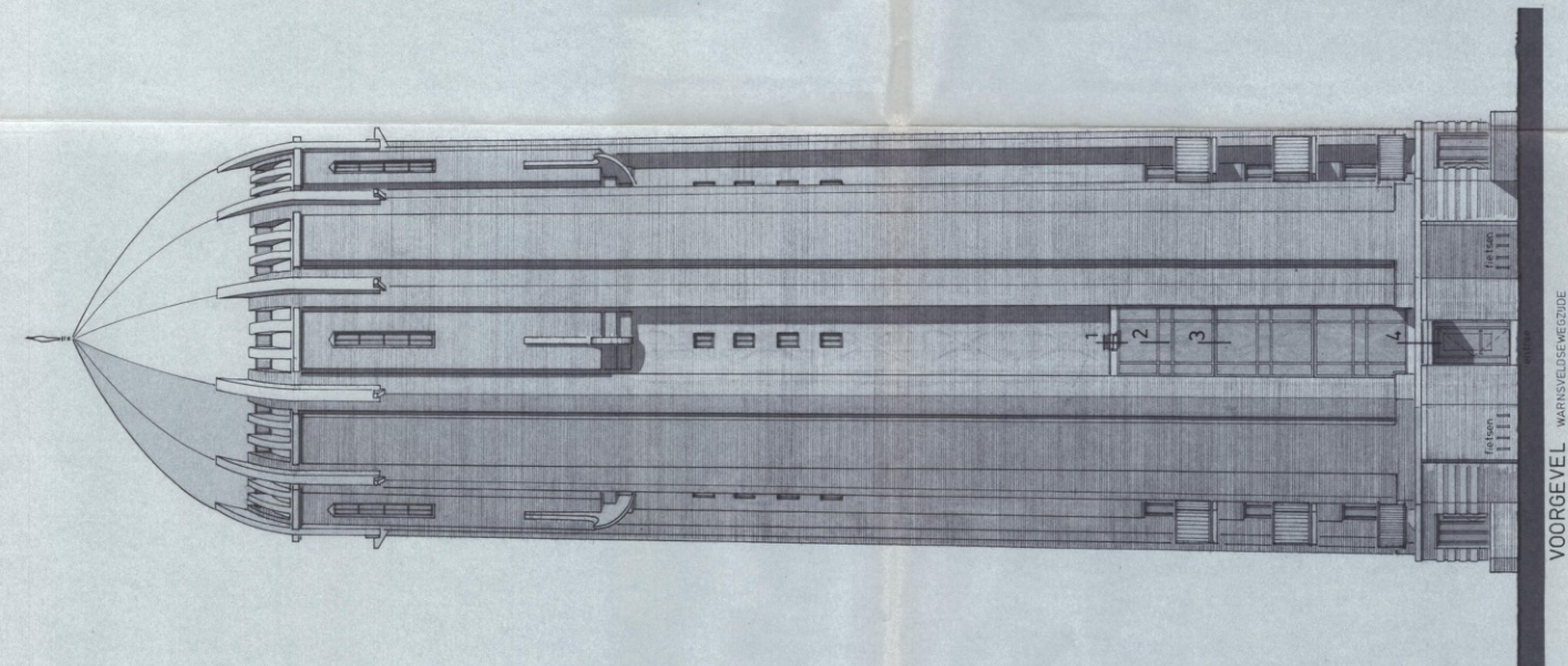
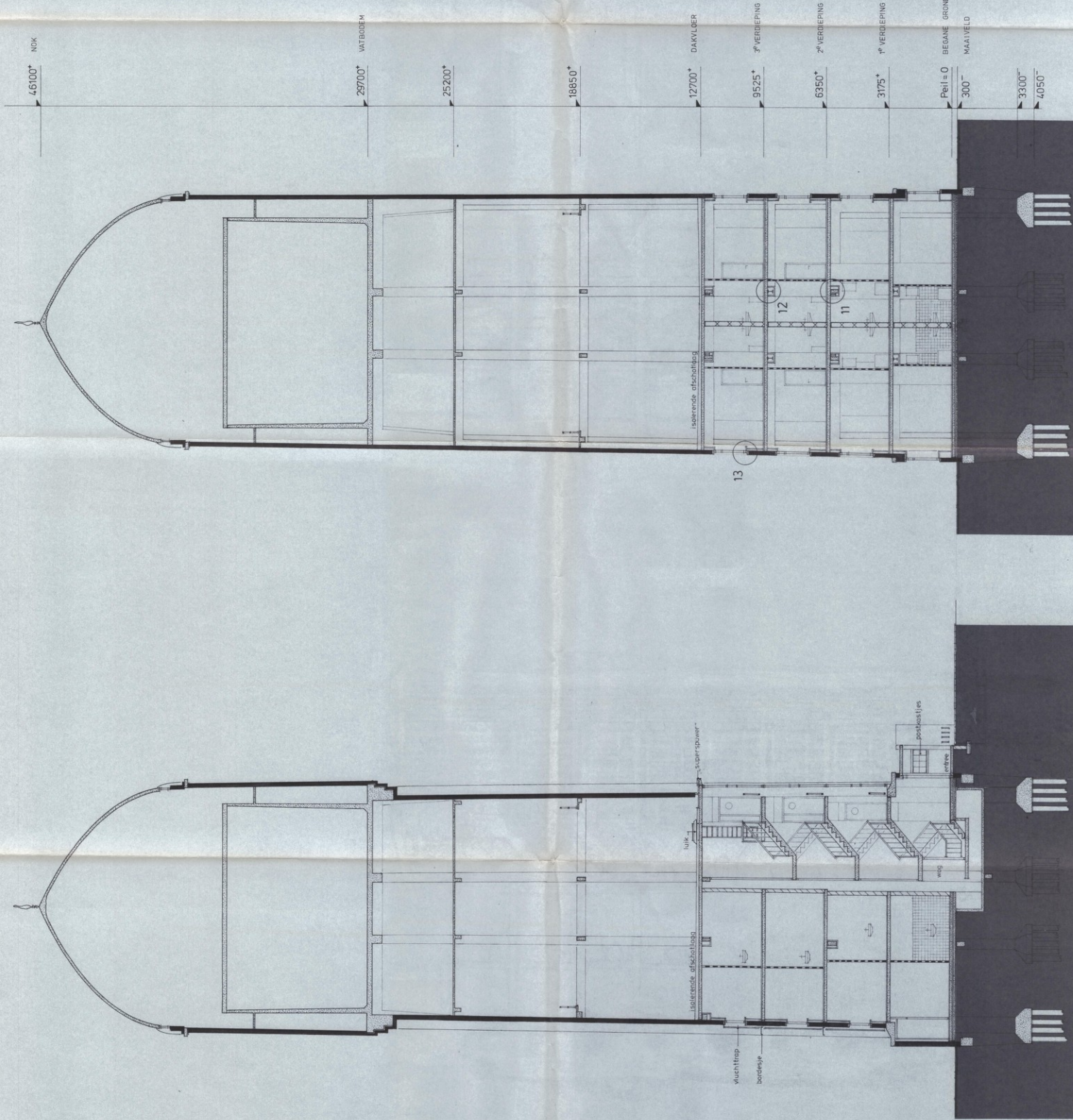


ACHTERGEVEL

OPENBARE WERKEN
ZUTPHEN
add. bouwen
Woningbouw

Behoort bij besluit van Burgemeester en
Wethouders van Zutphen d.d. 2-12-82
afd. A.Z., nr. 17.143

PROJECT	8	2. PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN	PROJECT NR.	8103
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN		BLADNR.	B.03
ONDERWERP	DOORSNEDE A - A B - B GEVELS		SCHAAL	1 : 100
ARCHITECT	ANB		DATUM	23.6.1982
SIGNEERSTRAAT 58 7203 HZ ZUTPHEN 05750 18146			WIJZ.	9.7.1982
			GET.	



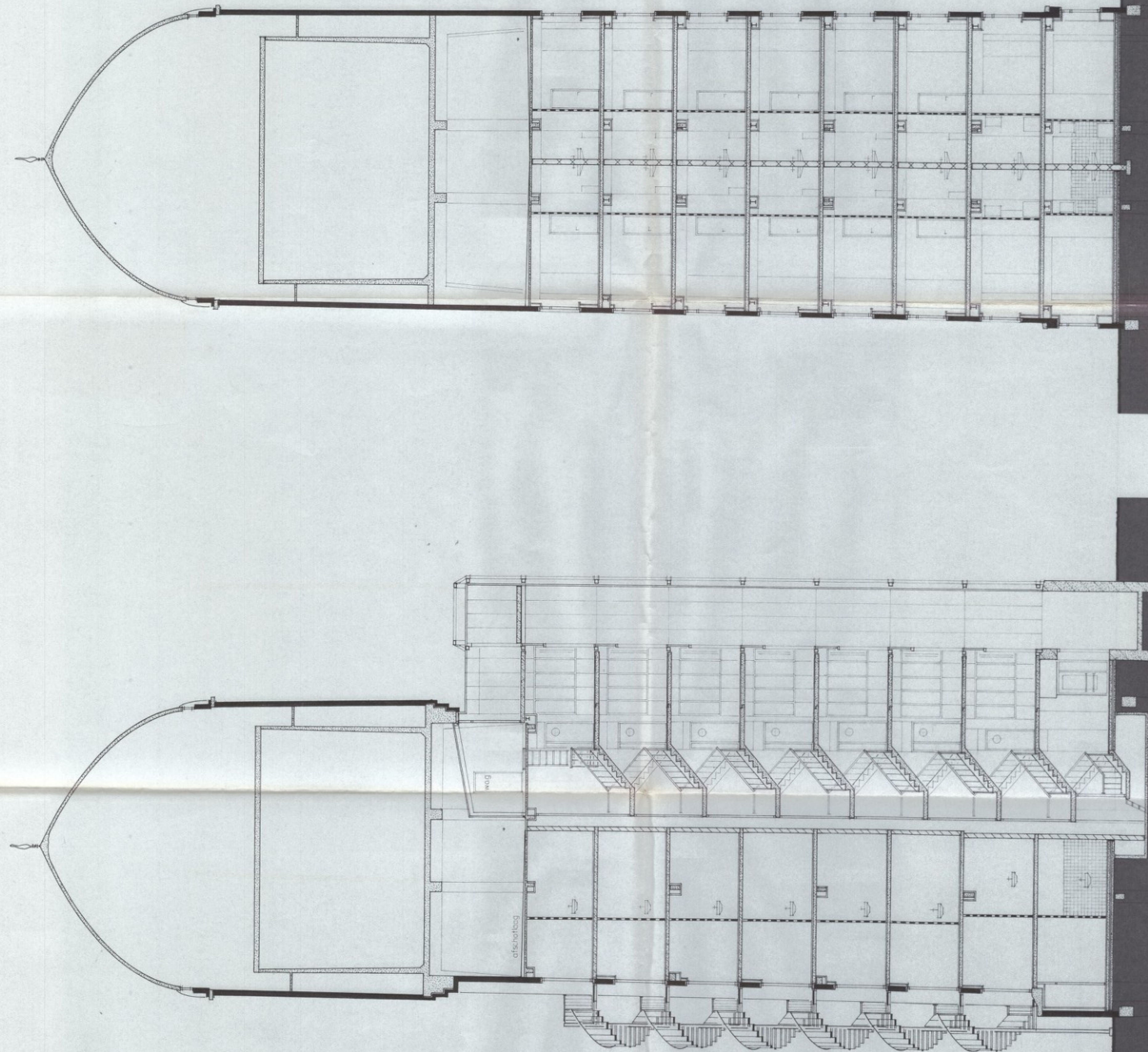
PROJECT	8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	
ONDERWERP	DOORSNEDE A-A B-B	
GEVELS		
PROJECT NO.	8103	
BLADNO.	B.03	
SCHAAL	1:100	
DATUM	23.6.1982	
WIJZ.	9.7.1982	
BET.		

PROJECT	8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	
ONDERWERP	DOORSNEDE A-A B-B	
GEVELS		
PROJECT NO.	8103	
BLADNO.	B.03	
SCHAAL	1:100	
DATUM	23.6.1982	
WIJZ.	9.7.1982	
BET.		

PROJECT	8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	
ONDERWERP	DOORSNEDE A-A B-B	
GEVELS		
PROJECT NO.	8103	
BLADNO.	B.03	
SCHAAL	1:100	
DATUM	23.6.1982	
WIJZ.	9.7.1982	
BET.		

PROJECT	8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	
ONDERWERP	DOORSNEDE A-A B-B	
GEVELS		
PROJECT NO.	8103	
BLADNO.	B.03	
SCHAAL	1:100	
DATUM	23.6.1982	
WIJZ.	9.7.1982	
BET.		

PROJECT	8	2-PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	
ONDERWERP	DOORSNEDE A-A B-B	
GEVELS		
PROJECT NO.	8103	
BLADNO.	B.03	
SCHAAL	1:100	
DATUM	23.6.1982	
WIJZ.	9.7.1982	
BET.		



DOORSNEDE A - A

DOORSNEDE B - B

45100"

NOK

29700"

VATBODEM

25400"

8^{de} VERDIEPING

22225"

7^{de} VERDIEPING

19050"

6^{de} VERDIEPING

15875"

5^{de} VERDIEPING

12700"

4^{de} VERDIEPING

9525"

3^{de} VERDIEPING

6350"

2^{de} VERDIEPING

3175"

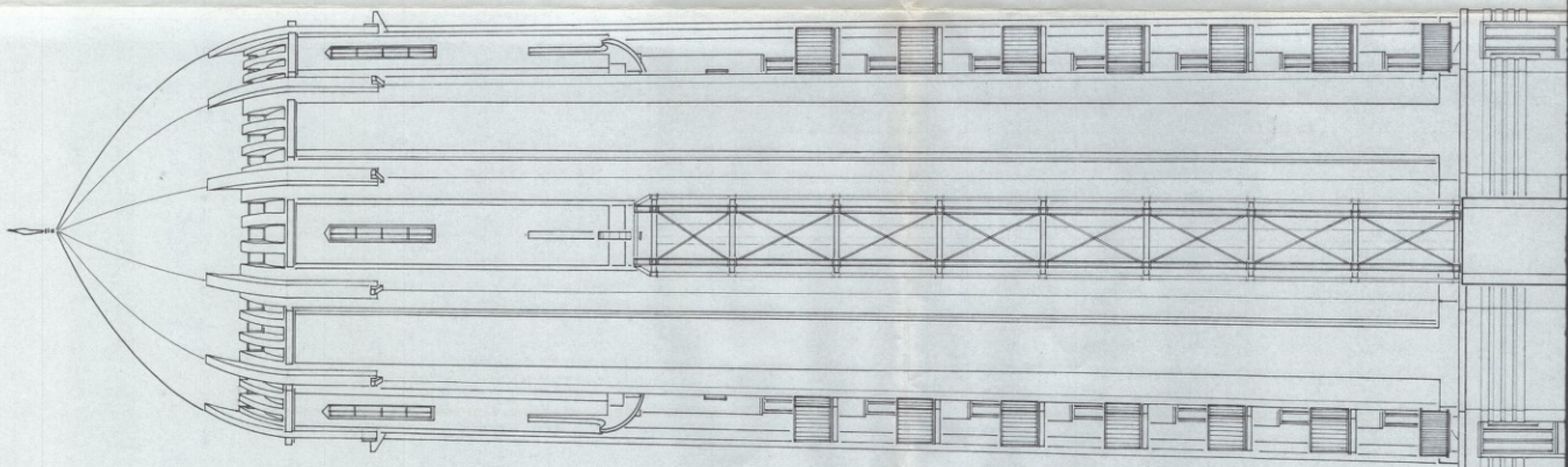
1^{de} VERDIEPING

Peil = 0

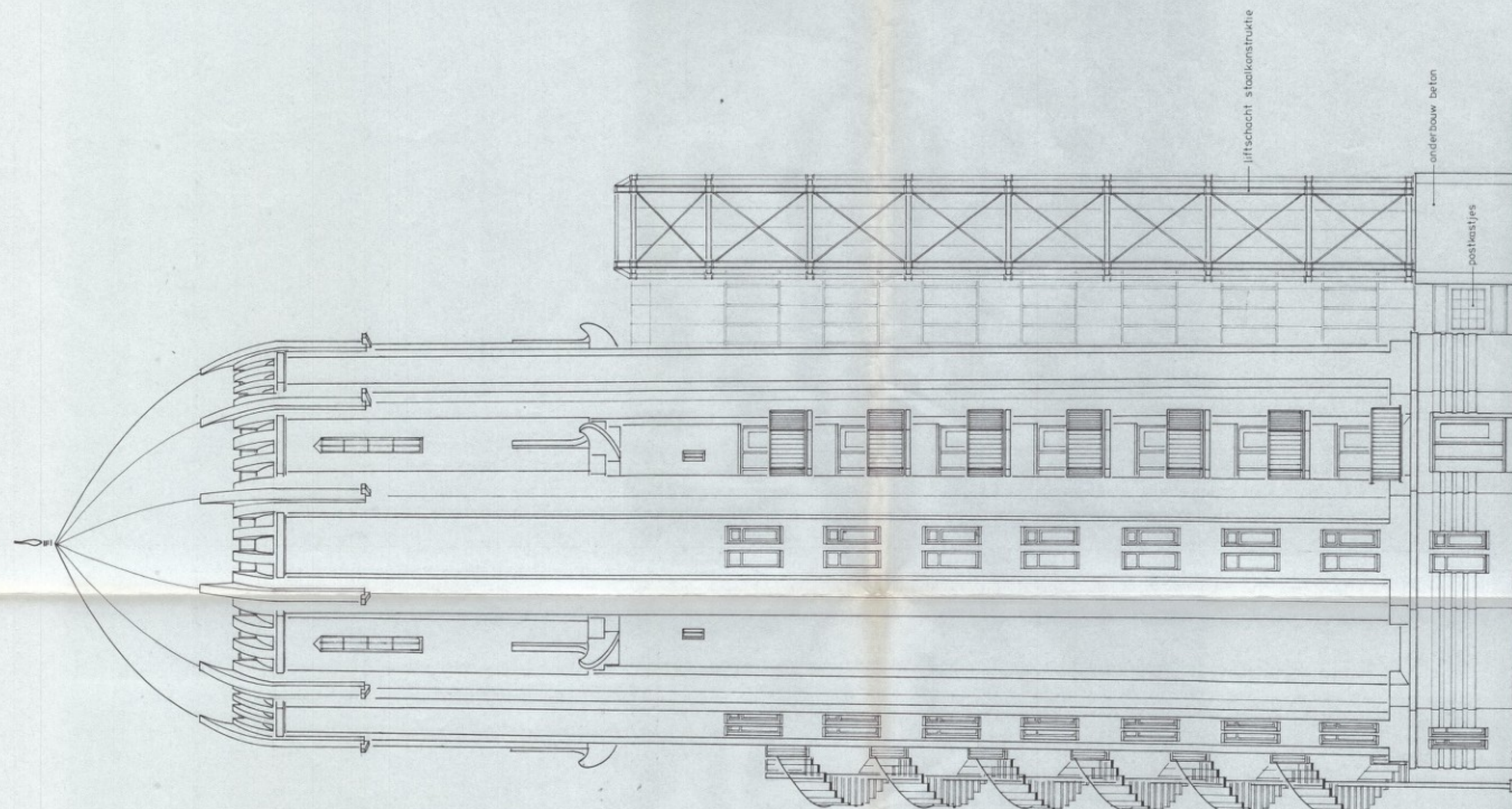
BEGANE GROND

300"

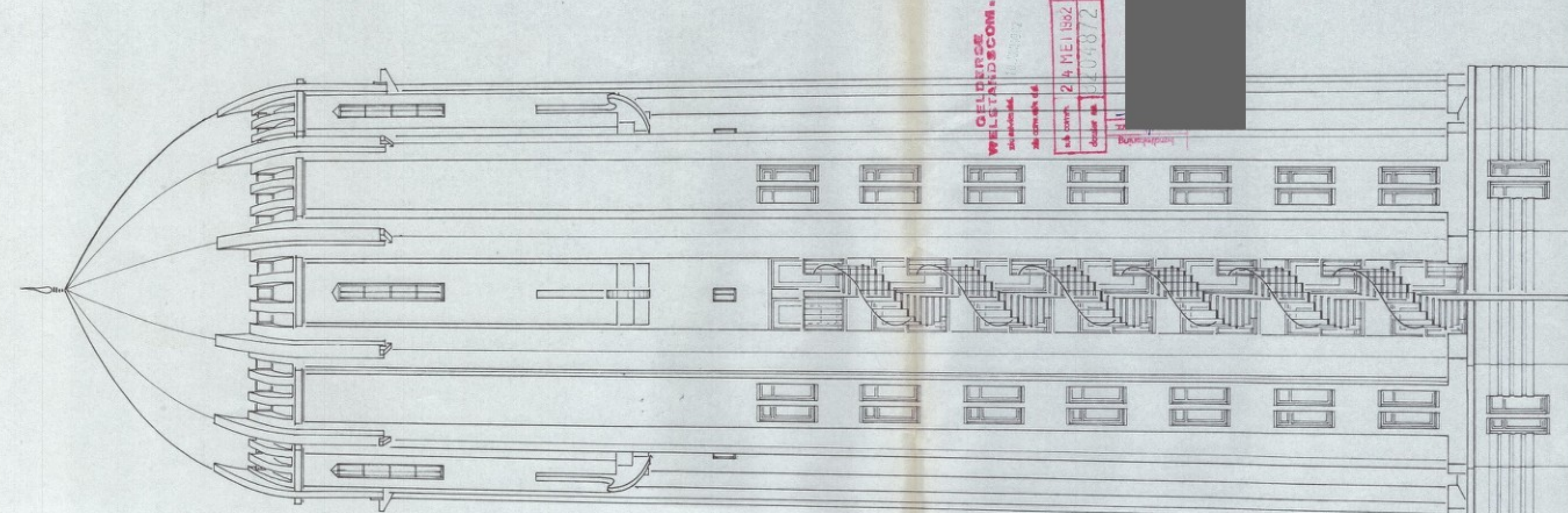
MAATVELD



VOORGEVEL WAPENVELDEWEGZIJDE

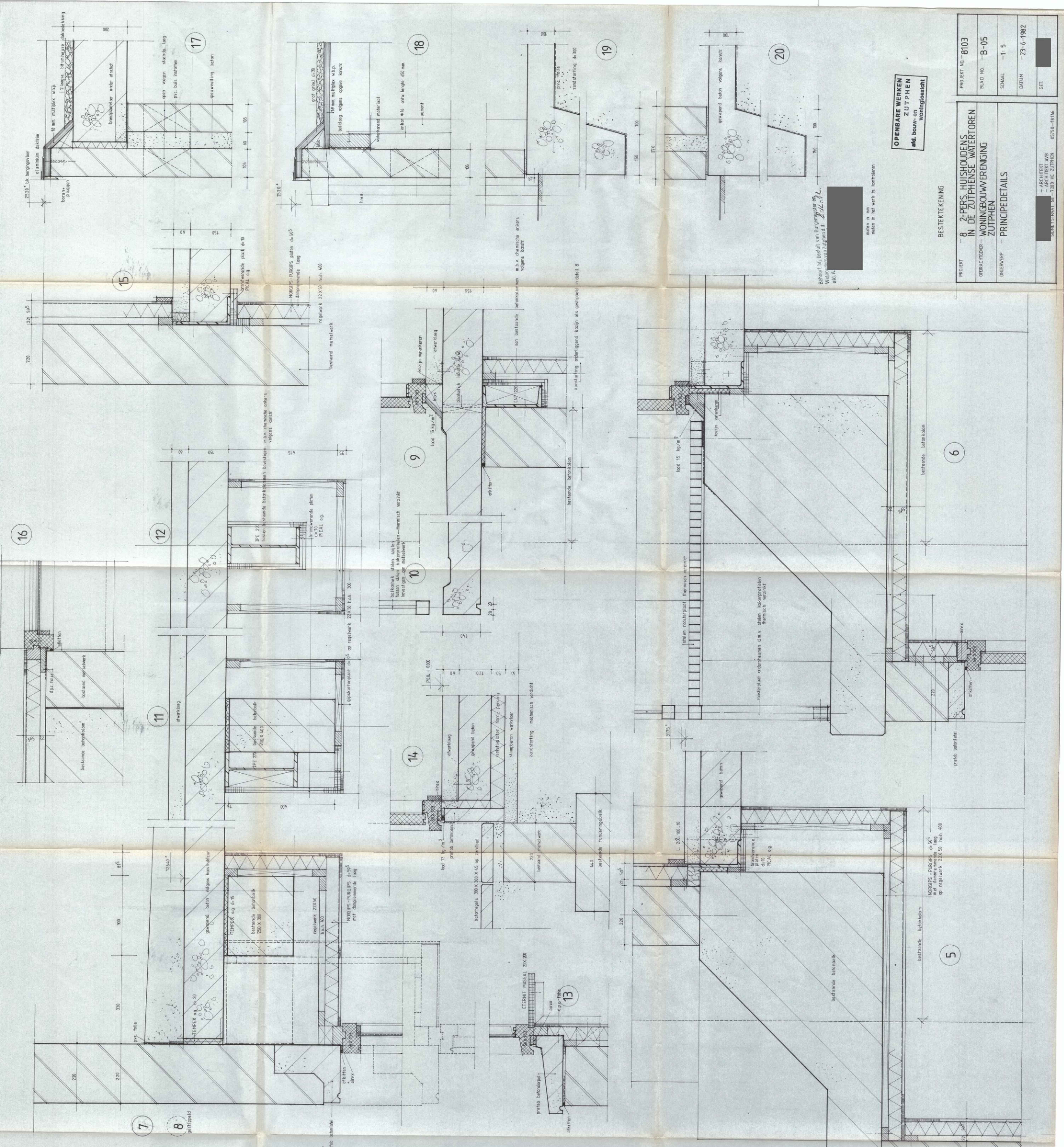
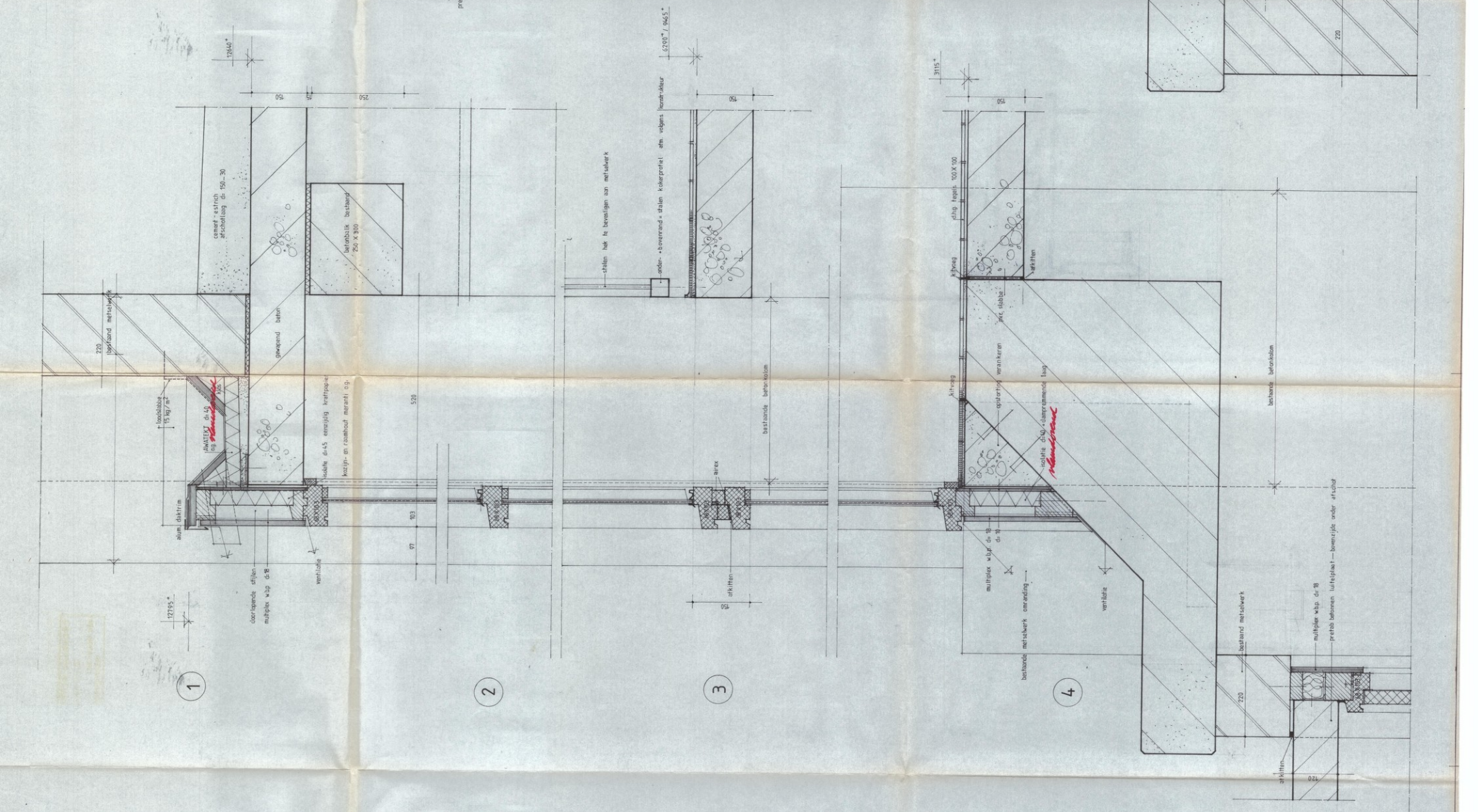


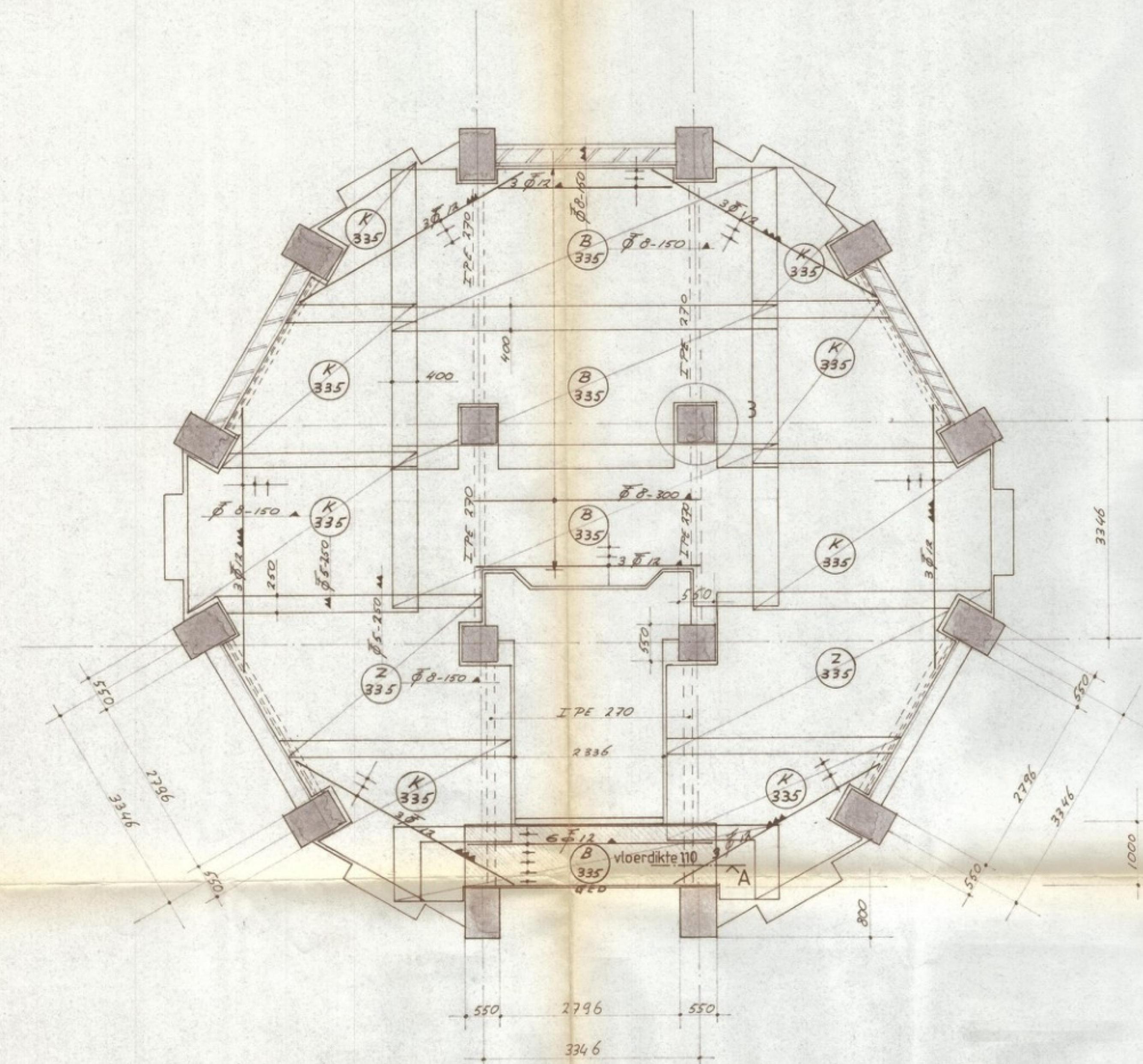
LINKER ZIJGEVEL BERKELZIJDE



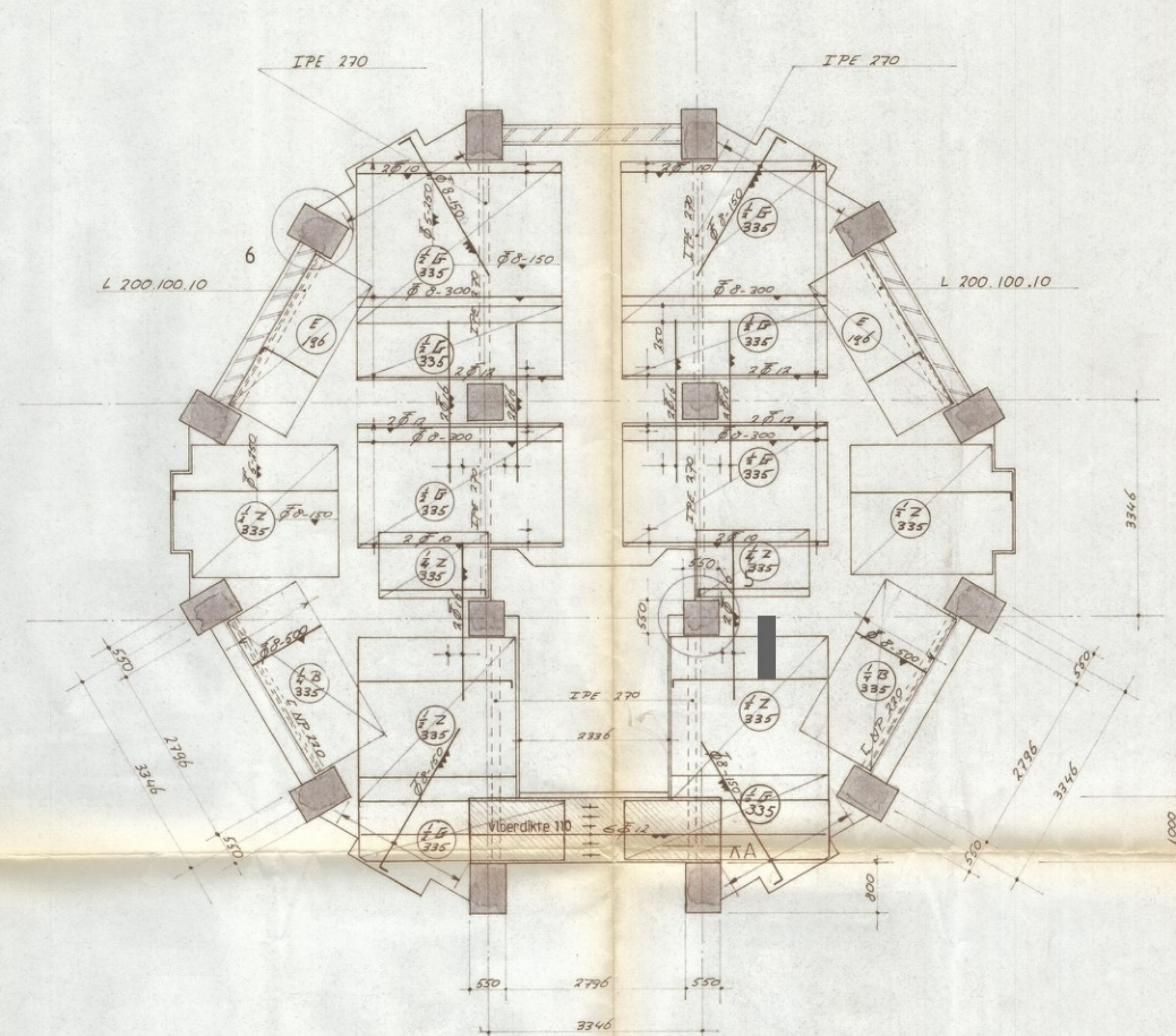
ACHTERGEVEL

PROJECT	16 2 PERS. HUISHOUDENS IN DE ZUTHPHENSE WATERTOREN	PROJECTNO	8103
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN	BLADNO.	B.03
ONDERWERP	DOORSNEDE A-A B-B GEVELS	SCHAAL	1 : 100
		DATUM	14. 5. 1982
		GET.	
		ARCHITEKT	ARCHITEKT A+B
			SUNENSTRAAT 68 7203 MC ZUTPHEN 05750-18146





ONDERWAPENING



BOVENWAPENING

- Balkons te stellen in de kist
- Voor maatvoering trapgat zie blad W 8

OVERIGE VERDIEPINGSVLOEREN TE WAPENEN ALS BOVENSTAAND

adviesbureau W.J. BRESSER b.v.
VOOR BETON-EN STAALKONSTRUKTIES LID ONRI
POSTBUS 375 7200 AJ ZUTPHEN TEL. 05750-18355

PROJECT: 8 2-PERS HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

ARCHITEKT: [REDACTED]

ONDERDEEL: 1e VERDIEPINGSVLOER

TEK. [REDACTED] KON.:

GEW.:

A B C D E

18-4-84 8-6-1984

PROJ. NO: 82025

ARCHIEF: 5191-4

DATUM: 28-02-1984

SCHAAL: 1:50

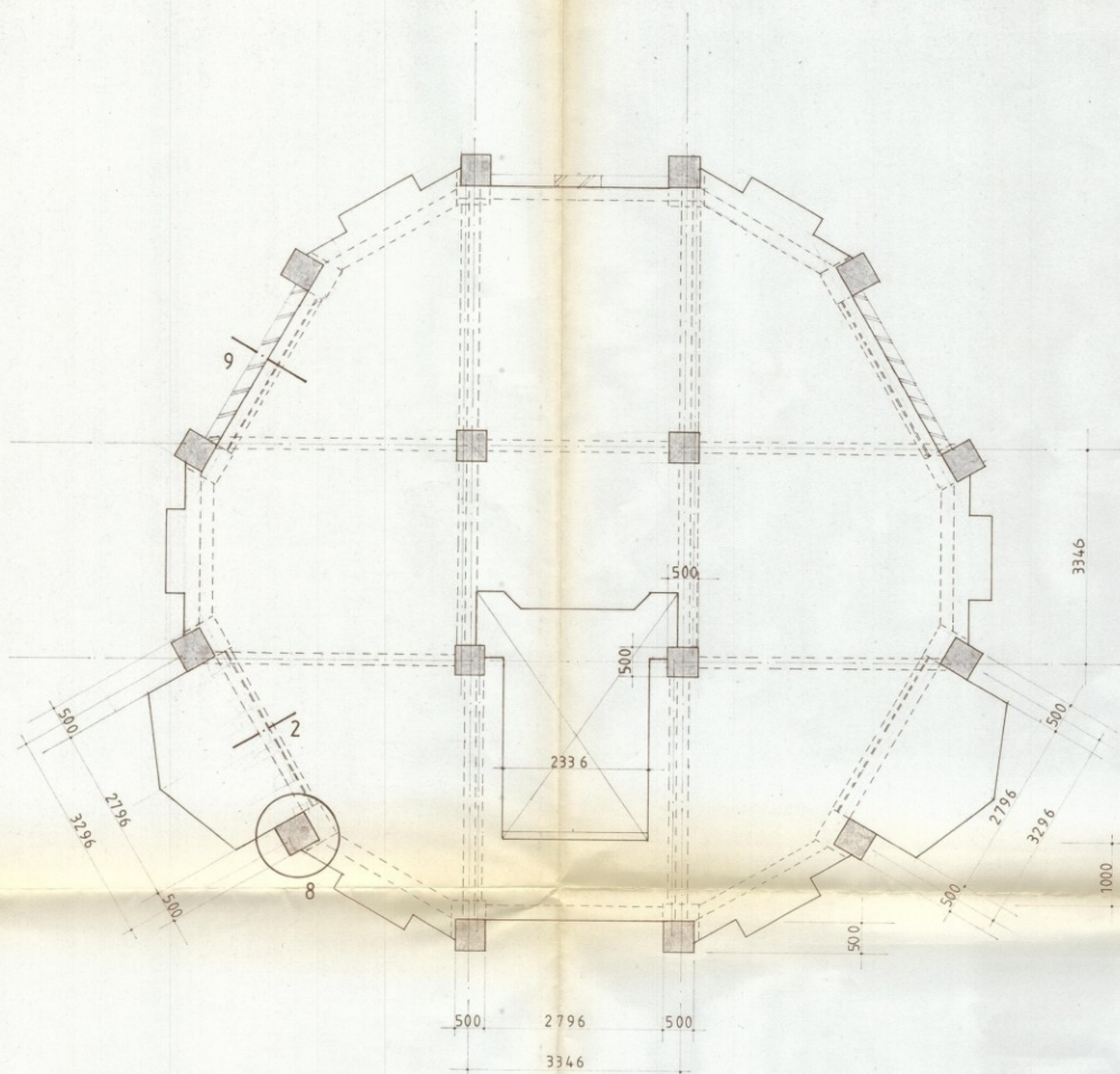
E

BLAD: W1

maten in mm. peilmaten in m.
staalkwaliteit ϕ -FeB 220 ϕ -FeB 400 ϕ -FeB 500
beton B 17,5 klasse: 1 zetmaat: 100 $\bar{x}_3 = n/mm^2$
cement: H.O. A cementgewicht = 320 kg/m³

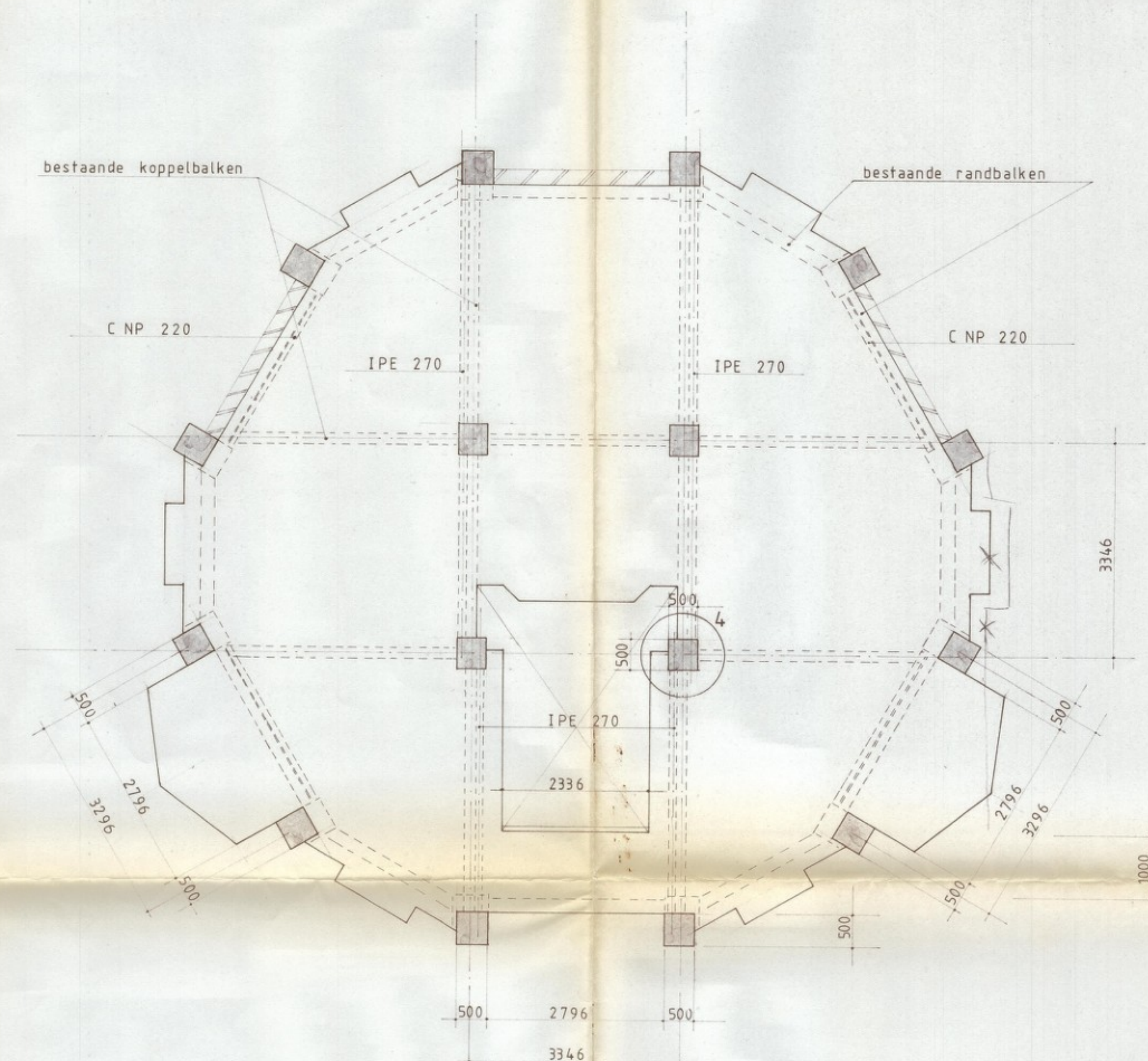
betondekking buitenste wapening in mm.
droog milieu vochtig milieu agressief milieu
vloeren □ 10 ■ 15 □ 25
wanden □ 15 □ 20 □ 30
balken □ 20 □ 25 □ 35
kolommen □ 25 □ 30 □ 40
oncontroleerbare vlakken 5mm. extra dekking
zeefkromme tussen grenzen A en B

ex 1307
gez 02
19/6/84



ONDERWAPENING

WAPENING ALS TEKENING W 1



BOVENWAPENING

zie tek W1

Maatvoering in het werk te controleren
Balkons stellen in de kist
Voor maatvoering trapgat zie blad W8

20.12.1984
opz. W
4/5/84

adviesbureau W.J.BRESSER b.v.
VOOR BETON-EN STAALKONSTRUKTIES LID ONRI
POSTBUS 375 7200 AJ ZUTPHEN TEL. 05750-18355

PROJEKT: 8 2-PERS. HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

ARCHITEKT: [REDACTED]

ONDERDEEL: 2^e VERDIEPINGSVLOER

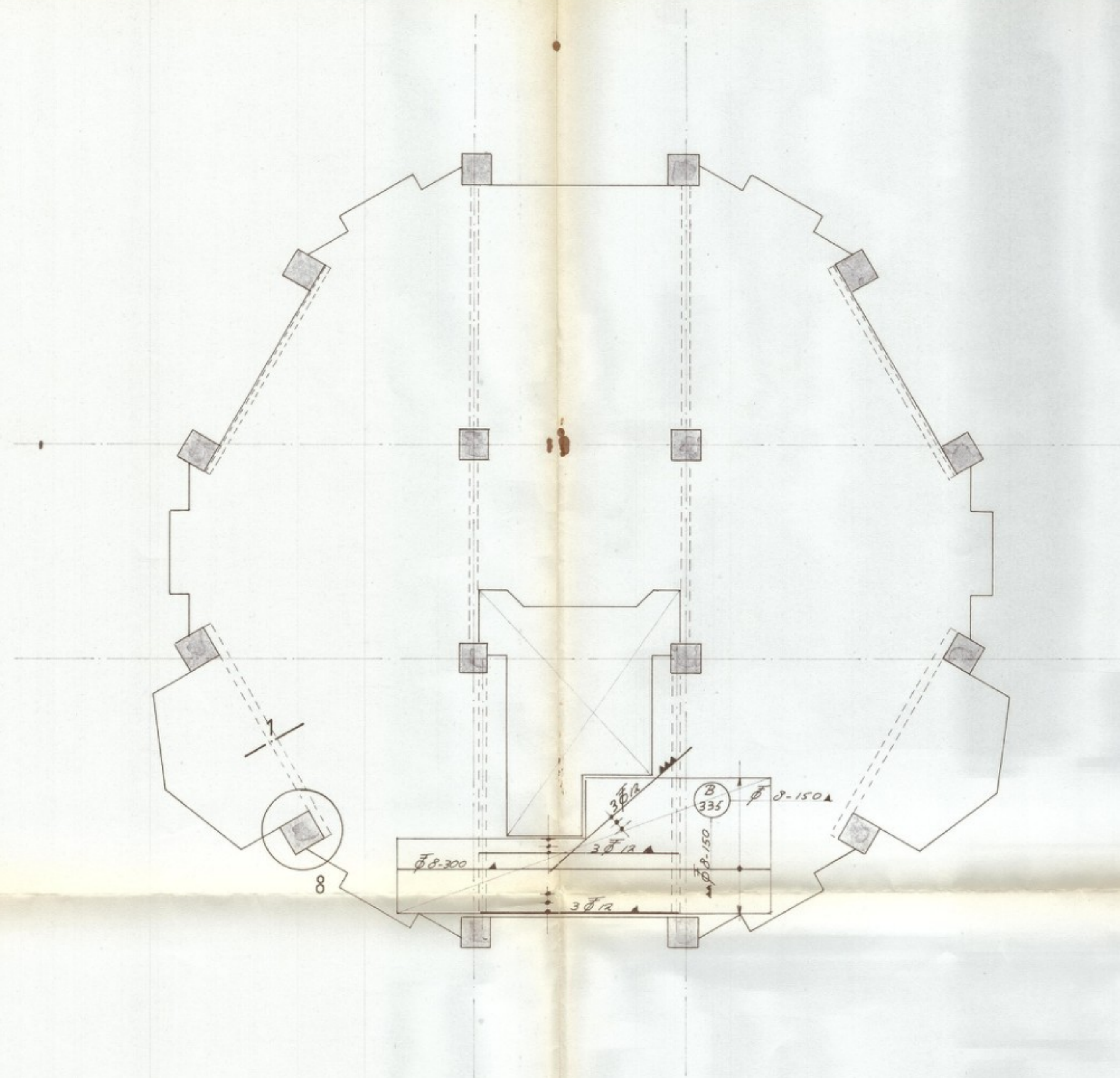
TEK.: [REDACTED] KON.: [REDACTED] DATUM: 29-02-1984

GEW.: [REDACTED] A B C D E SCHAAAL: 1:50

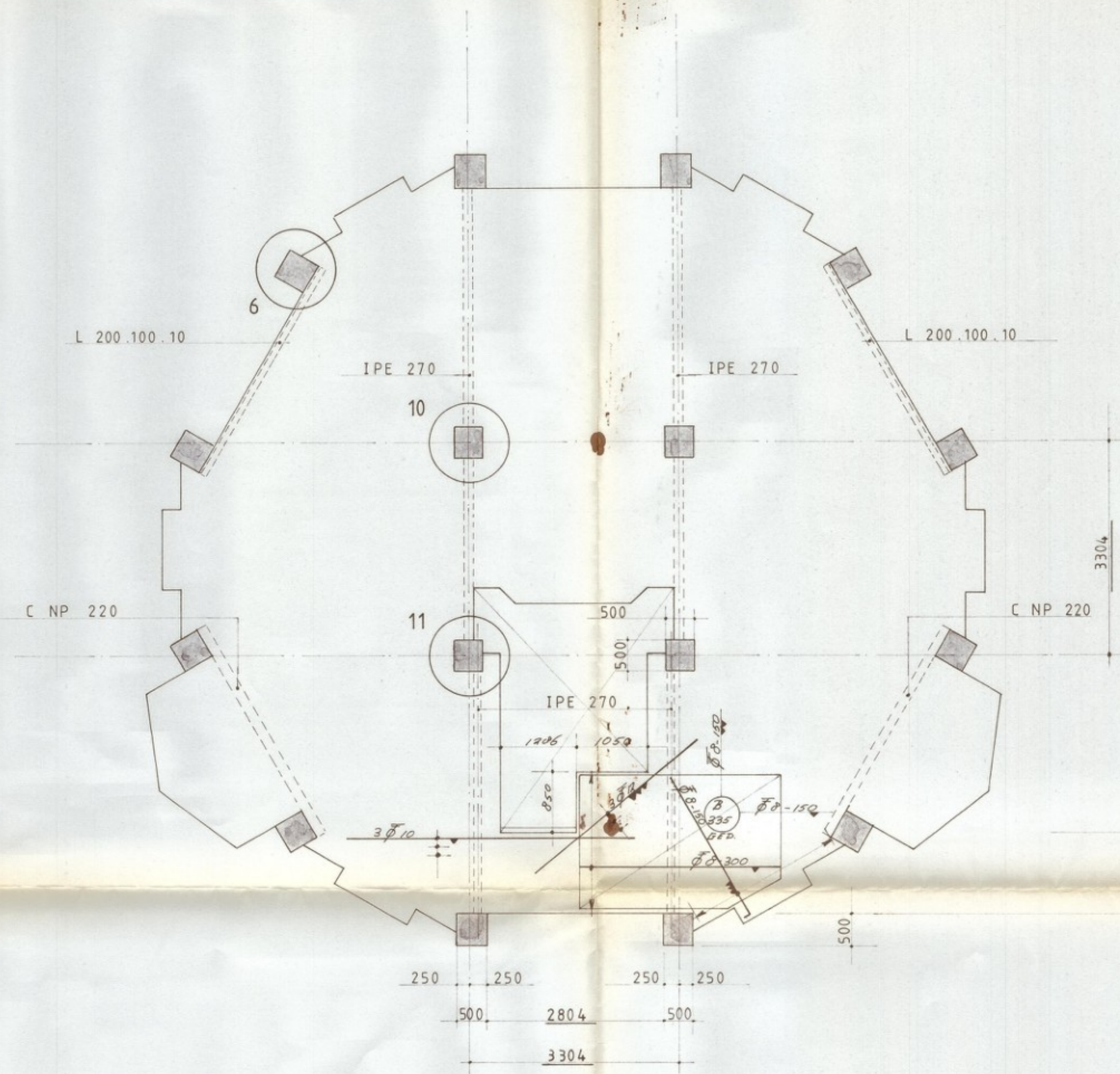
PROJ. NO.: 82025 ARCHIEF: 5210-4 BLAD: W2

maten in mm. staalkwaliteit beton B 17, 5 cement: H.O. A
peilmaten in m. $\phi = \text{FeB 220}$ klasse: 1 cementgewicht = 320 kg/m³
 $\phi = \text{FeB 400}$ $\phi = \text{FeB 500}$ $\bar{x}_3 = \text{ n/mm}^2$

betondekking buitenste wapening in mm.
droog milieu vochtig milieu agressief milieu
vloeren ☐ 10 ☒ 15 ☐ 25
wanden ☐ 15 ☐ 20 ☐ 30
balken ☐ 20 ☐ 25 ☐ 35
kolommen ☐ 25 ☐ 30 ☐ 40
oncontroleerbare vlakken 5mm. extra dekking
zeefkromme tussen grenzen A en B



ONDERWAPENING



BOVENWAPENING

Maten in het werk controleren
Voor maatvoering trapgat, zie tek. W 8
Balkons te stellen in de kist

zie tek W 8

24.02.1984

02.15.07

OVERIGE WAPENING ALS TEKENING W 1

adviesbureau W.J.BRESSER b.v.
VOOR BETON-EN STAALKONSTRUKTIES LID O.N.R.I.
POSTBUS 375 7200AJ ZUTPHEN TEL.05750-18355

PROJEKT: 8 2-PERS. HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

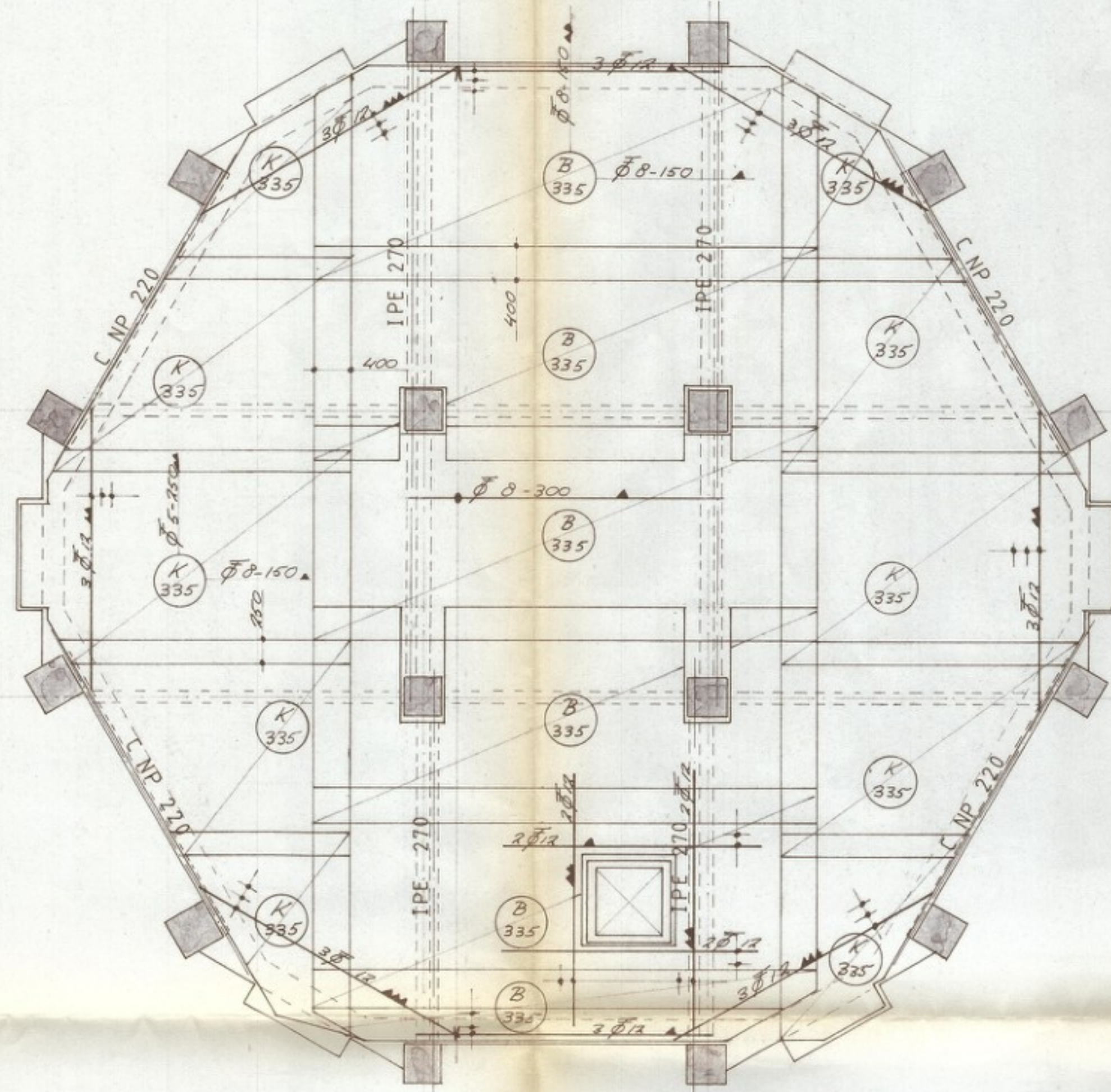
ARCHITEKT: [REDACTED]

ONDERDEEL: 3^e VERDIEPINGS VLOER

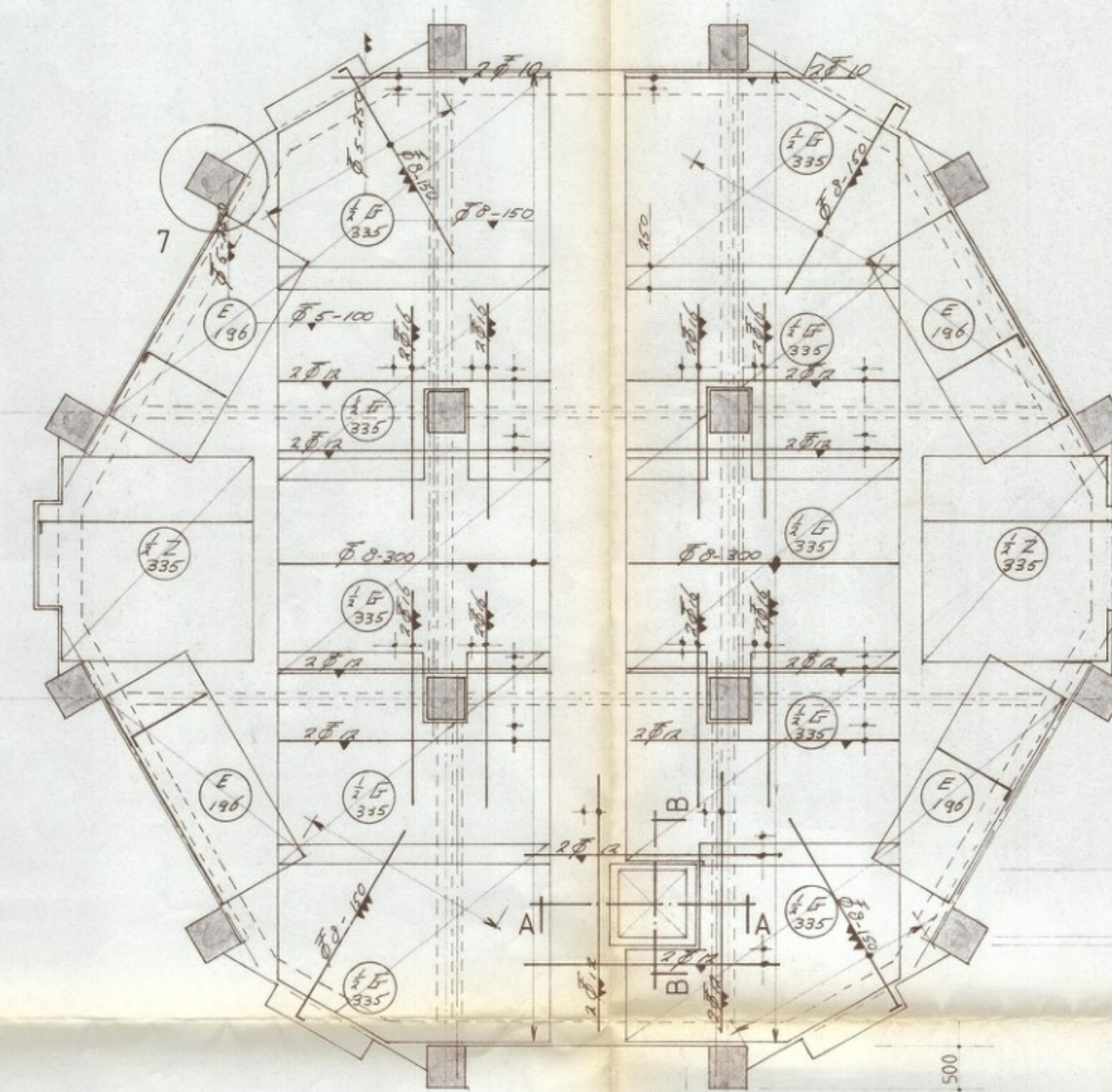
maten in mm. staalkwaliteit beton B 17, 5 cement: H.O. A
peilmaten in m. ϕ =FeB 220 klasse: 1 zetmaat: 100 cementgewicht=320 kg/m³
 ϕ =FeB 400 ϕ =FeB 500 $\bar{x}_3 = \frac{n}{mm^2}$

betondekking buitenste wapening in mm.
droog milieu vochtig milieu agressief milieu
vloeren 10 15 25
wanden 15 20 30
balken 20 25 35
kolommen 25 30 40
oncontroleerbare vlakken 5mm. extra dekking
zeefkromme tussen grenzen A en B

TEK.: [REDACTED] KON.: [REDACTED] DATUM: 29-02-1984
GEW.: [REDACTED] A B C D E
PROJ. NO.: 82 02 5 ARCHIEF: 5211 - 4 BLAD: W3

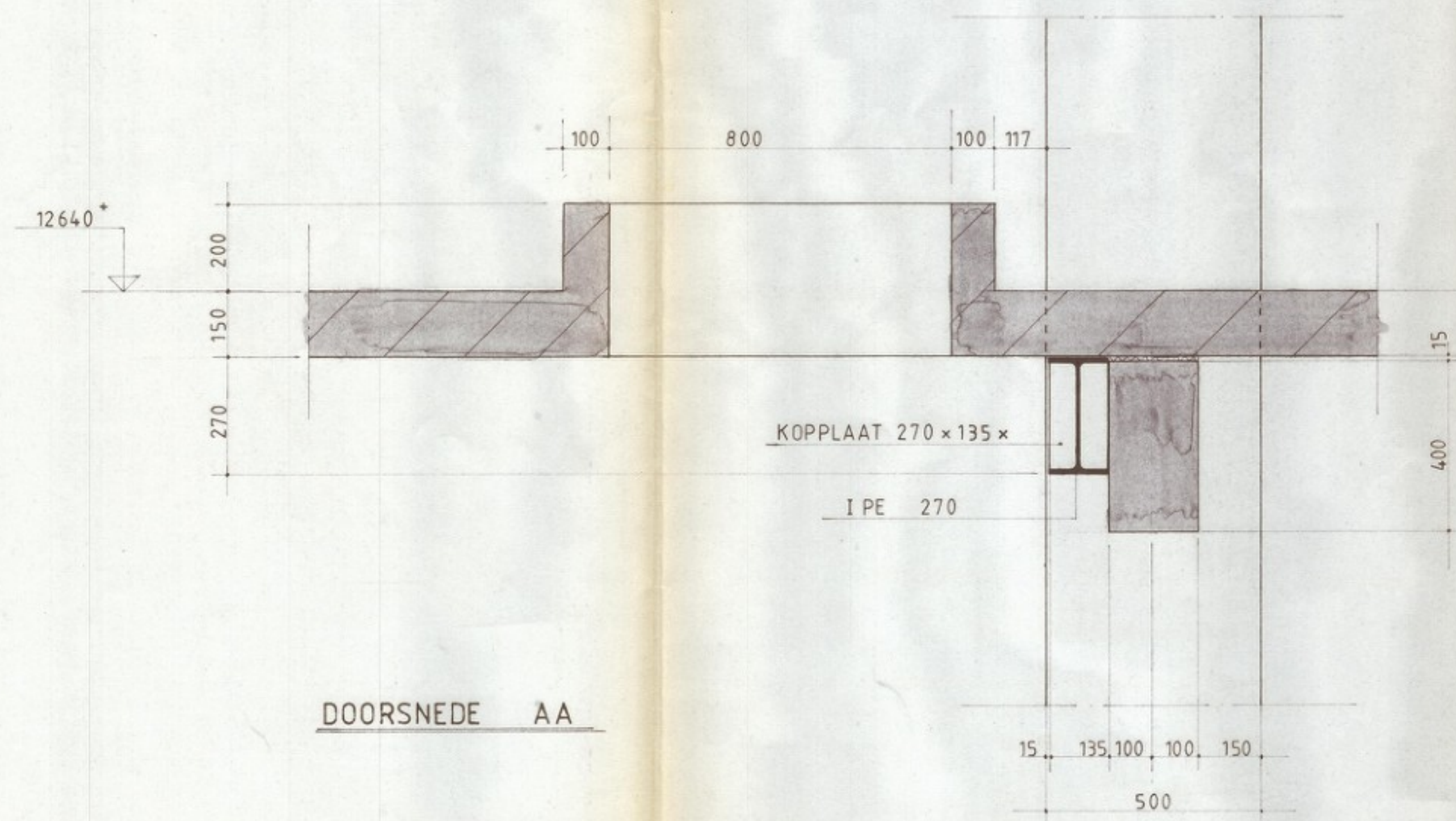


ONDERWAPENING

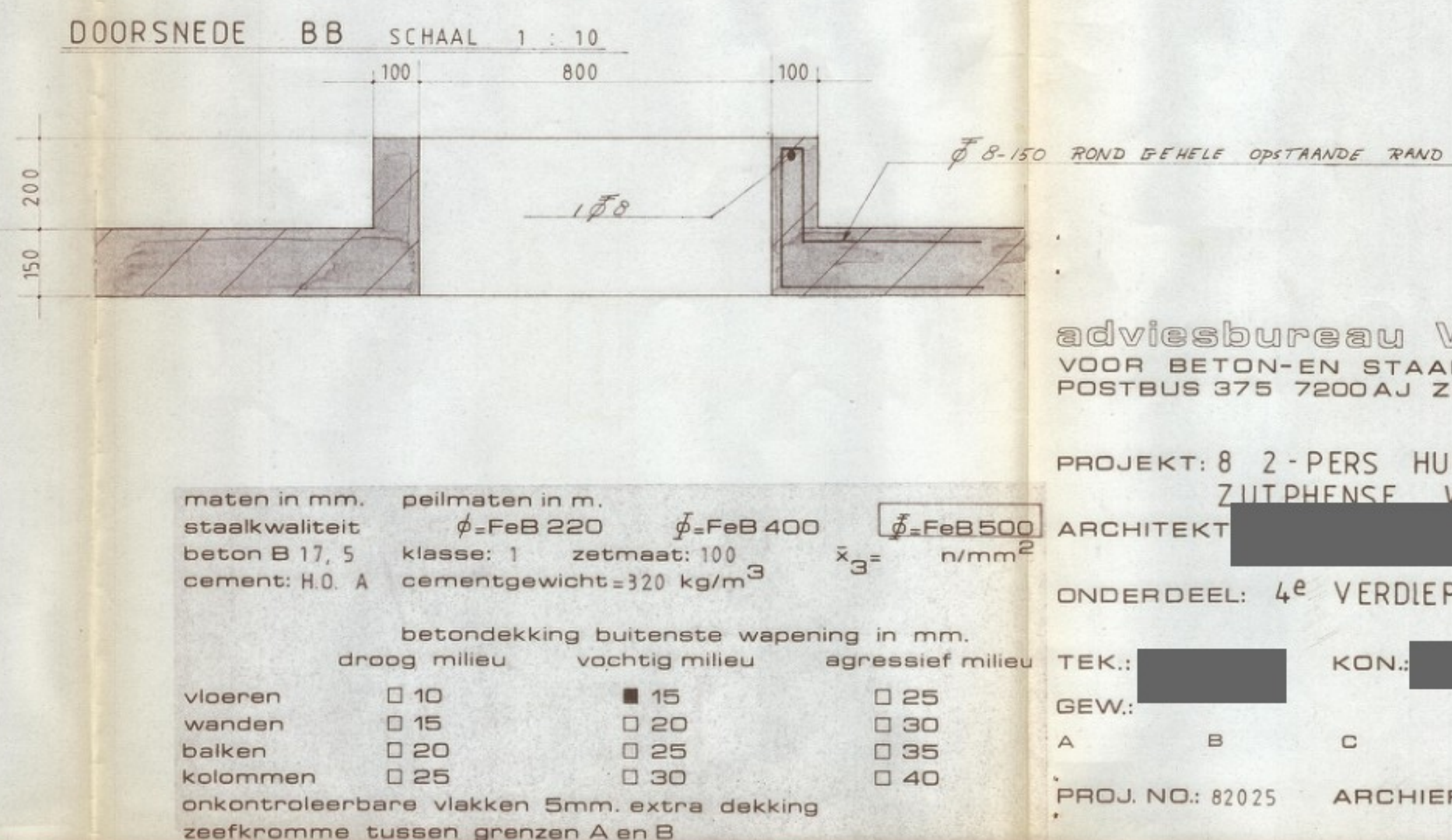


BOVENWAPENING

Maten te controleren in het werk



DOORSNEDE AA



DOORSNEDE BB

maten in mm.	peilmaten in m.	
staalkwaliteit: beton B 17, 5	Ø = FeB 220	Ø = FeB 400
cement: H.O. A	klasse: 1	zetmaat: 100
	cementgewicht = 320 kg/m ³	Ø = FeB 500
		Ø = n/mm ²
betondekking buitenste wapening in mm.		
	droog milieu	vochtig milieu
vloeren	□ 10	■ 15
wanden	□ 15	□ 20
balken	□ 20	□ 25
kolommen	□ 25	□ 30
oncontroleerbare vlakken 5mm. extra dekking		□ 35
zeefkromme tussen grenzen A en B		□ 40
		agressief milieu

adviesbureau W.J. BRESSER b.v.
VOOR BETON-EN STAALKONSTRUKTIES LID O.N.R.I.
POSTBUS 375 7200 AJ ZUTPHEN TEL. 05750-18355

PROJEKT: 8 2-PERS HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

ARCHITEKT

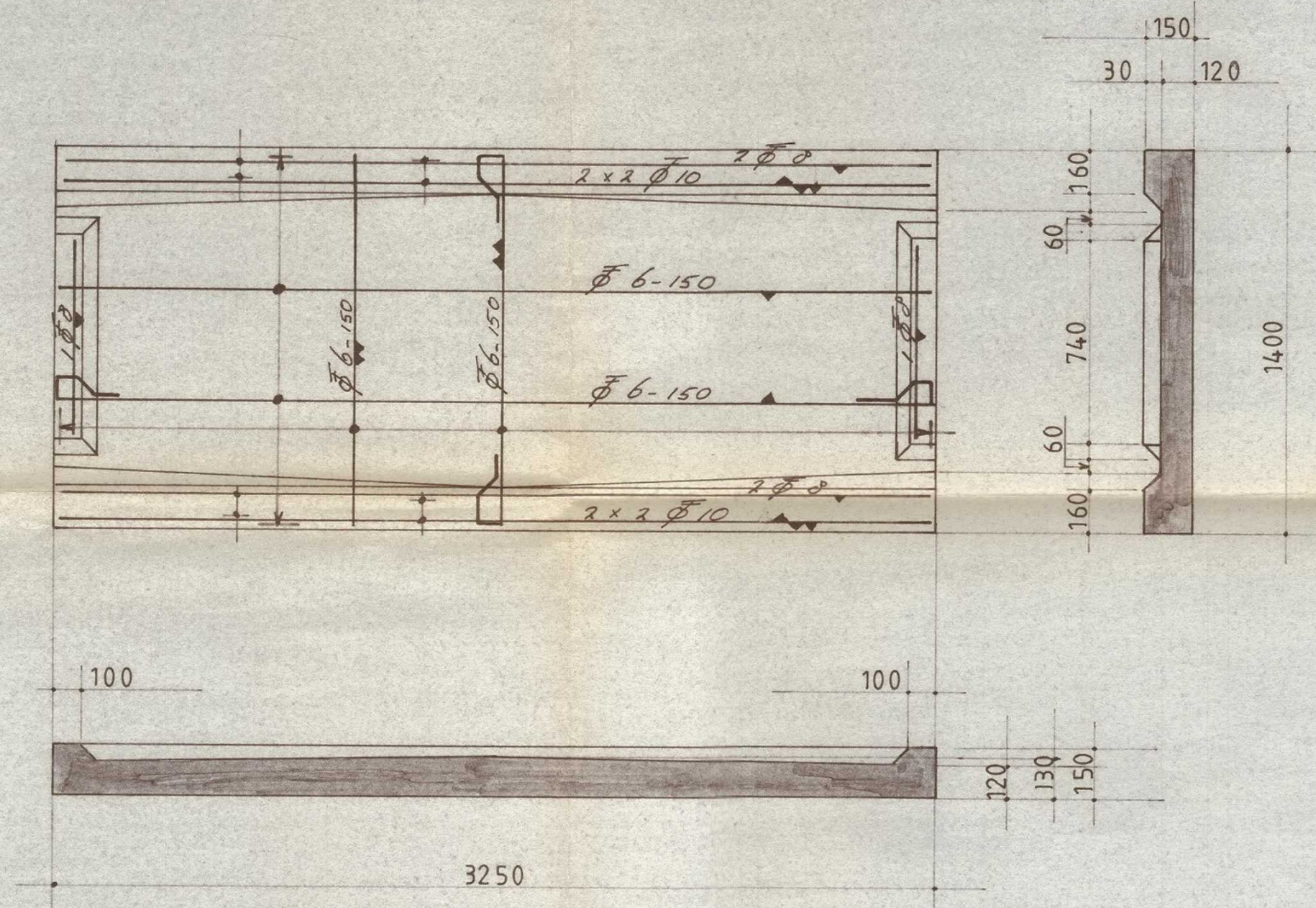
ONDERDEEL: 4^e VERDIEPINGSVLOER

TEK.: KON.: DATUM: 29-02-1984

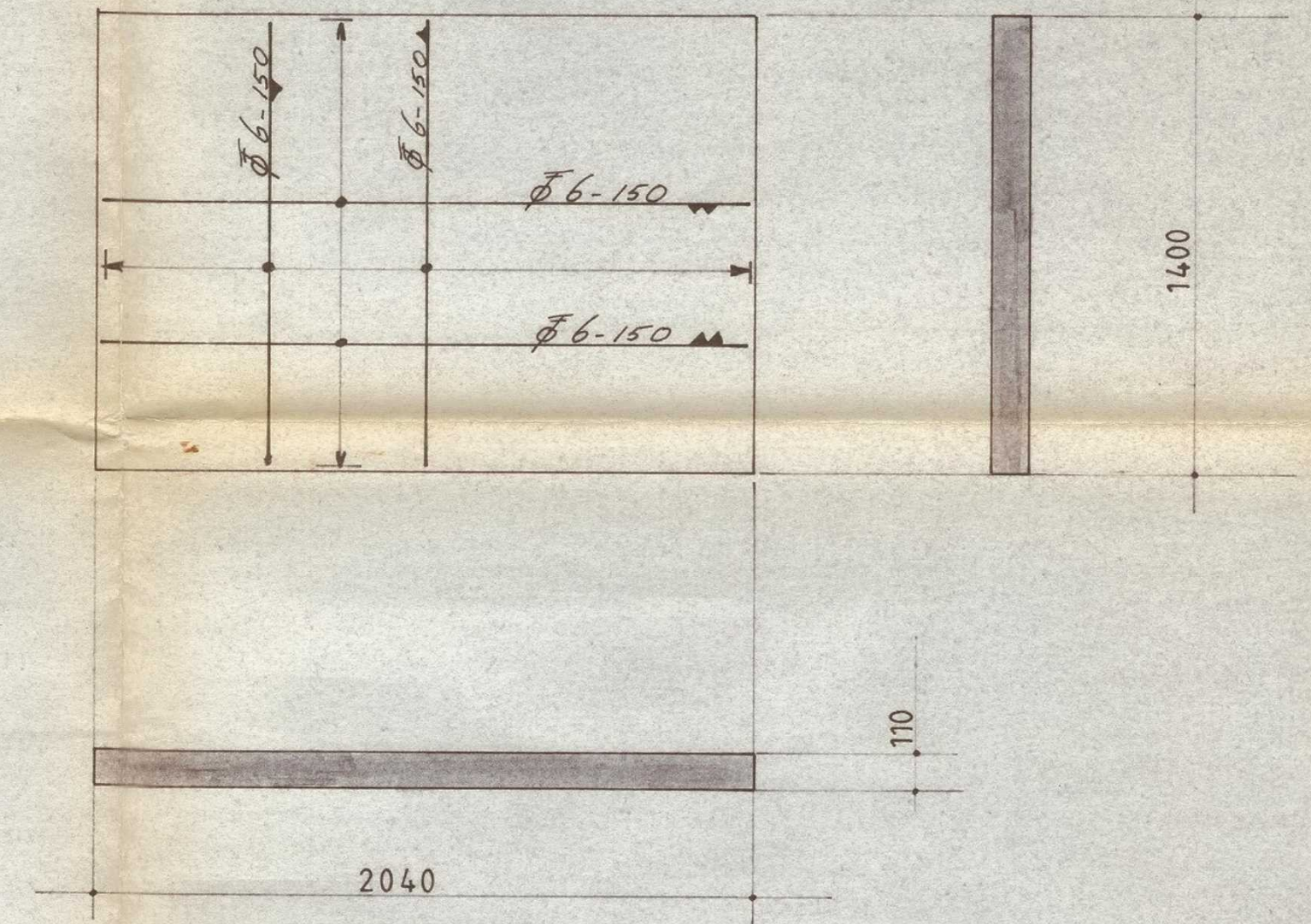
GEW.: A B C D E

PROJ. NO.: 82025 ARCHIEF: 5213-4

BLAD: W4



ENTREEDAK



ENTREEVLOER

maten in mm. peilmaten in m.
 staalkwaliteit $\phi = \text{FeB } 220$ $\phi = \text{FeB } 400$ $\phi = \text{FeB } 500$
 beton B 17,5 klasse: 1 zetmaat: 100 $\bar{x}_3 = \text{ n/mm}^2$
 cement: H.O. A cementgewicht = 320 kg/m³

betondekking buitenste wapening in mm.
 droog milieu vochtig milieu agressief milieu

vloeren	☐ 10	☐ 15	☐ 25
wanden	☐ 15	☐ 20	☐ 30
balken	☐ 20	☐ 25	☐ 35
kolommen	☐ 25	☐ 30	☐ 40

oncontroleerbare vlakken 5mm. extra dekking
 zeefkromme tussen grenzen A en B

adviesbureau **W.J. BRESSER**
 VOOR BETON-EN STAALKONSTRUKTIES LID O.N.R.I.
 POSTBUS 375 7200AJ ZUTPHEN TEL. 05750-18355

PROJEKT: 8 2 PERS. HUISHOUDENS IN DE
 ZUTPHENSE WATERTOREN

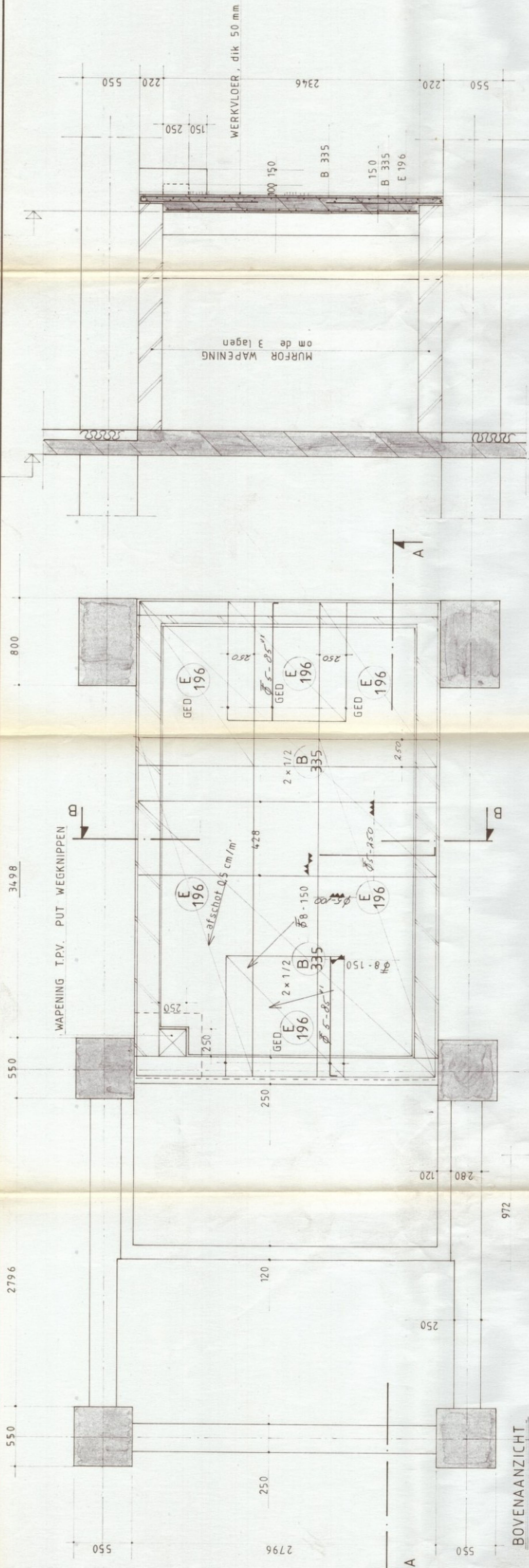
ARCHITEKT: [REDACTED]

ONDERDEEL: ENTREEDAK EN VLOER

TEK [REDACTED] KON. [REDACTED] DATUM: 01-03-1984
 GEW.: [REDACTED] SCHAAL: 1:20

a b c d
 PROJ. NO.: 82025 ARCHIEF: 5214-4 BLAD: **W3**

24 APR 1984
 en BOUT
 gez. wr
 4/5/84



DOORSNEDE BB

BOVENAANZICHT

- GEW. BETON BESTAAND
- GEW. BETON NIEUW
- STROOK, STORTEN TIJDENS CONSTRUCTIE KELDER

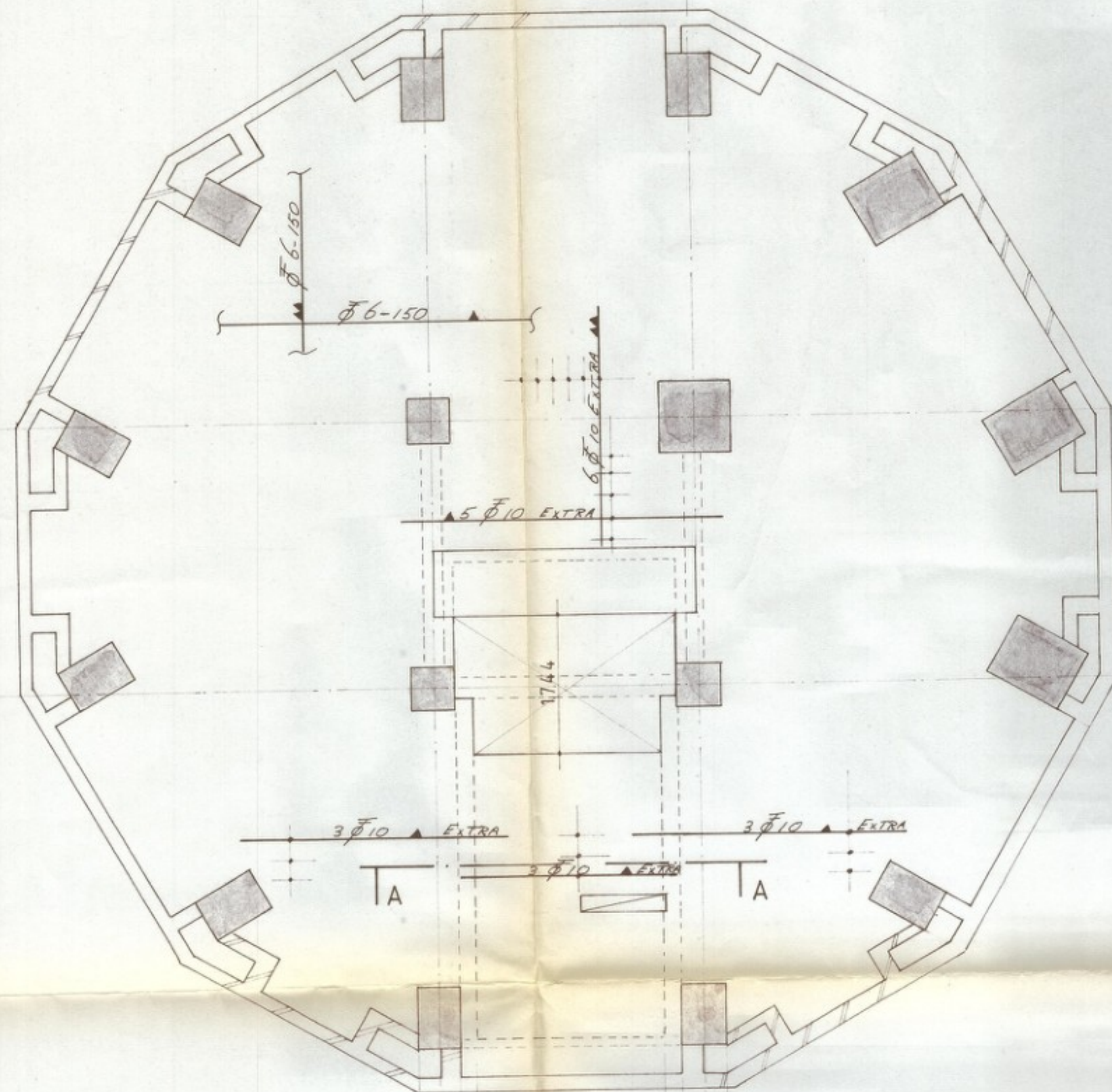
MATEN IN HET WERK CONTROLEREN
maten in mm. peilmaten in m.
staalkwaliteit ϕ =FeB 220
beton B 17,5 klasse: 1 zetmaat: 100 mm $\bar{x}_3$ =
cement: H.O. A cementgewicht=320 kg/m³

betondekking buitenste wapening in mm.
droog milieu vochtig milieu agressief milieu
vloeren $\square$ 10 $\square$ 15 $\blacksquare$ 20
wanden $\square$ 15 $\square$ 30 $\square$ 30
balken $\square$ 20 $\square$ 25 $\square$ 35
kolommen $\square$ 25 $\square$ 30 $\square$ 40
oncontroleerbare vlakken 5mm. extra dekking
zeefkromme tussen grenzen A en B

adviesbureau W.J. BRASSER b.v.
VOOR BETON-EN STAALKONSTRUCTIES LID ONR.
POSTBUS 375 7200AJ ZUTPHEN TEL. 05750-18355

PROJECT: 8 2-PERS HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN
ARCHITEKT: *van Buit*
ONDERDEEL: GEWIJZIGDE KELDER

TEK.: *van Buit*
GEW.: *van Buit*
A B C D E
PROJ. NO.: 82025 ARCHIEF: 5216 - 4 BLAD: **W6**
DATUM: 02 - 03 - 1984
SCHAAL: 1:20

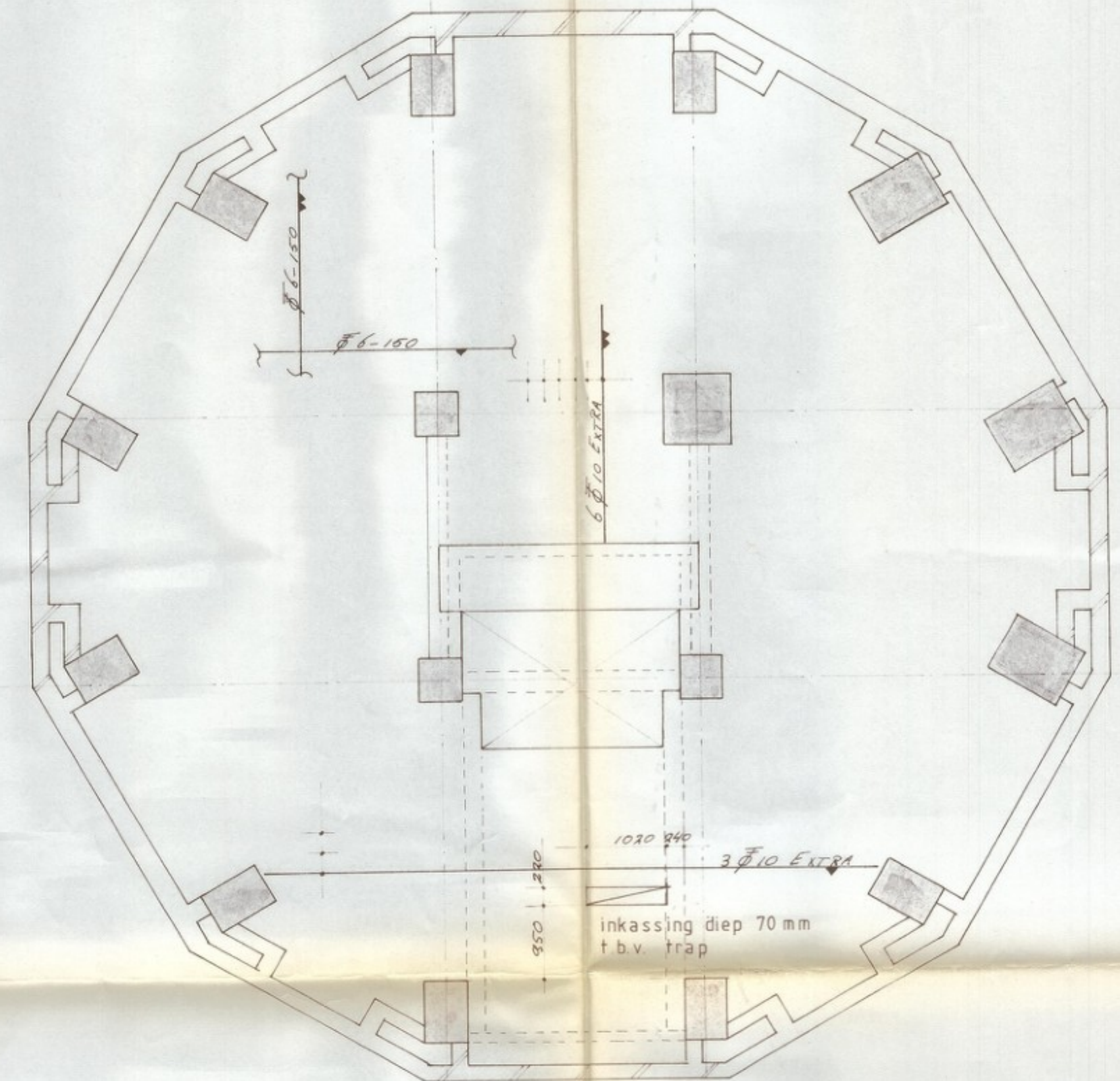


550, 220, 2356, 220, 550
3346

ONDERWAPENING



DRSN AA



BOVENWAPENING

- 6-150 # ONDER EN BOVEN LEGGEN OVER GEHELE VLOEROPPERVLAK
- T.P.V. INKASSING WEGGEKNIPTE WAPENING BIJLEGGEN
- LASLENGTE 6 = 360 mm

ca 15-17
ca 15-17
9/1/84

adviesbureau W.J. BRESSER b.v.
VOOR BETON-EN STAALKONSTRUKTIES LID ONRI
POSTBUS 375 7200AJ ZUTPHEN TEL. 05750-18355

PROJEKT: 8 2-PERS HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

ARCHITEKT: [REDACTED]

ONDERDEEL: BEGANE GRONDVLOER

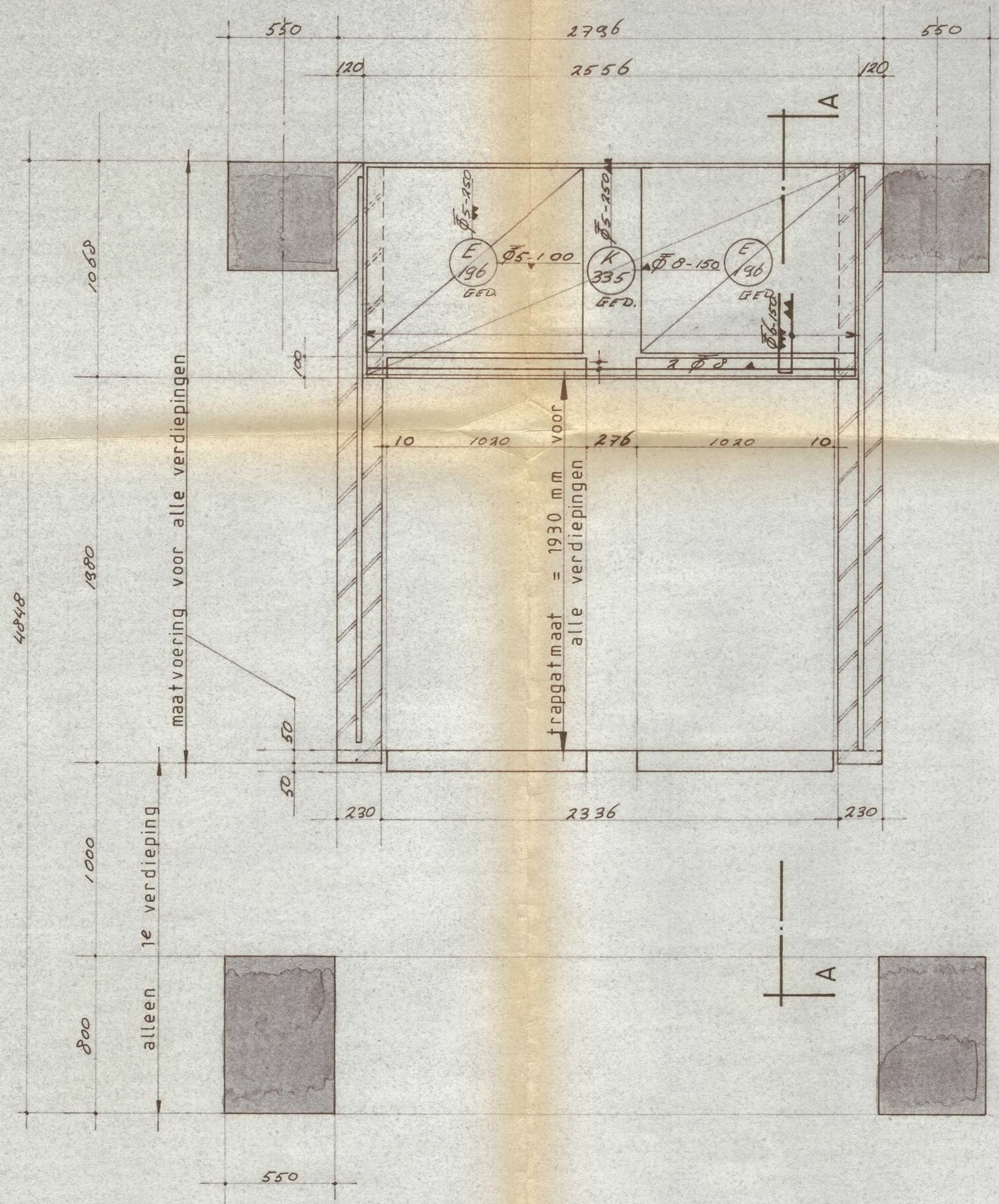
TEK. [REDACTED] KON. [REDACTED] DATUM: 02-03-1984

GEW.: A B C D E SCHAAAL: 1:50

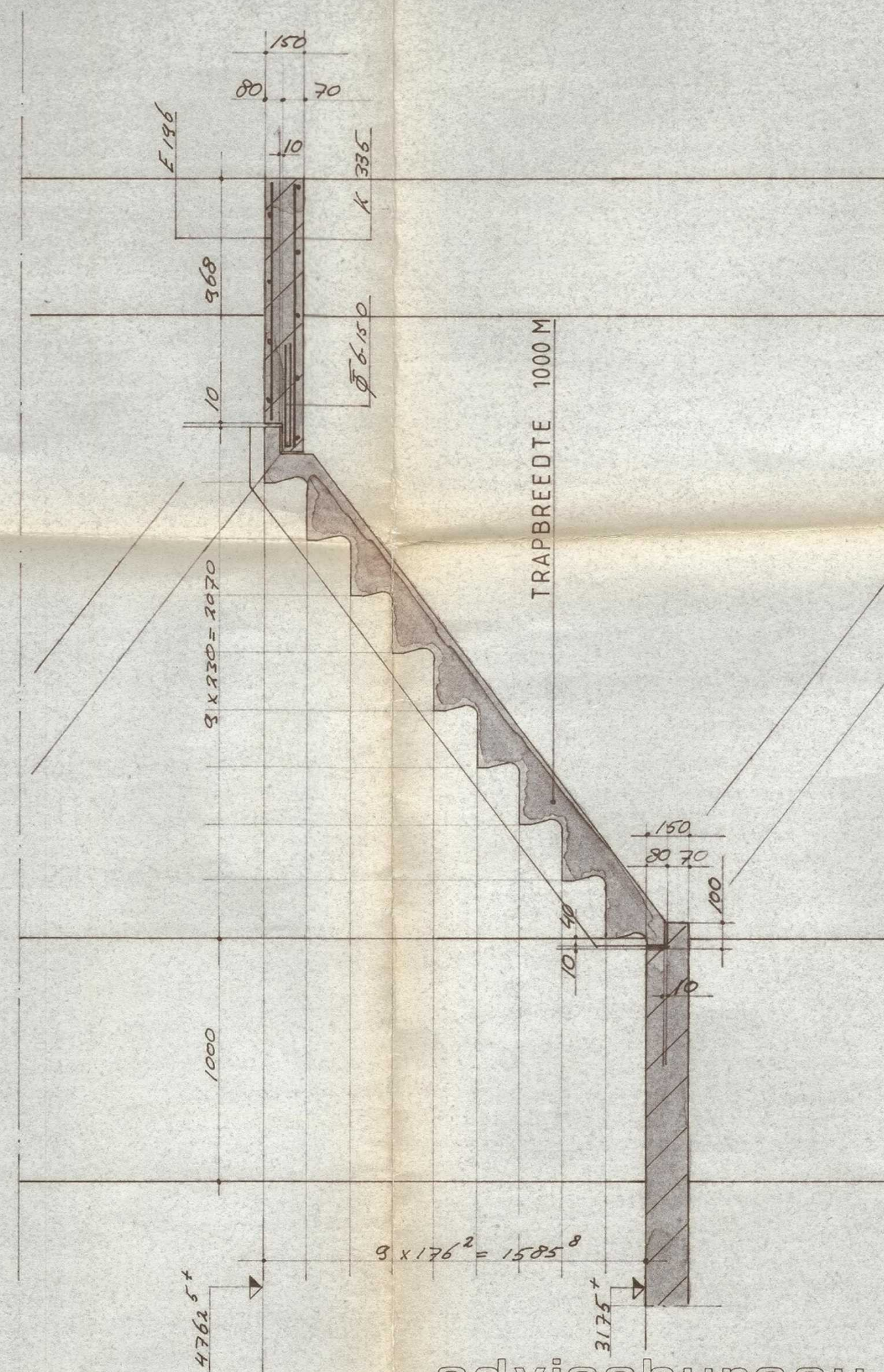
PROJ. NO.: 82025 ARCHIEF: 5218-4 BLAD: W7

maten in mm. staalkwaliteit beton B 17,5 cement: H.O. A
peilmaten in m. ϕ =FeB 220 ϕ =FeB 400 ϕ =FeB 500
klasse: 1 zetmaat: 100 $\bar{x}_3 =$ n/mm²
cementgewicht= 320 kg/m³

	betondekking buitenste wapening in mm.		
	droog milieu	vochtig milieu	agressief milieu
vloeren	10	15	25
wanden	15	20	30
balken	20	25	35
kolommen	25	30	40
oncontroleerbare vlakken 5mm. extra dekking			
zeefkromme tussen grenzen A en B			



DOORSNEDE OP 5,00 m+ PEIL



DOORSNEDE A-A

beton : B 17,5
staal : FeB 500
dekking : 20 mm

adviesbureau W.J. BRESSER
VOOR BETON-EN STAALKONSTRUKTIES LID O.N.R.I.
POSTBUS 375 7200AJ ZUTPHEN TEL. 05750-18355

PROJEKT: 8 2-PERS. HUISHOUDENS IN DE
ZUTPHENSE WATERTOREN

ARCHITEKT: [REDACTED]

ONDERDEEL: PREFAB TRAP MET BORDES ,1^e VERD.

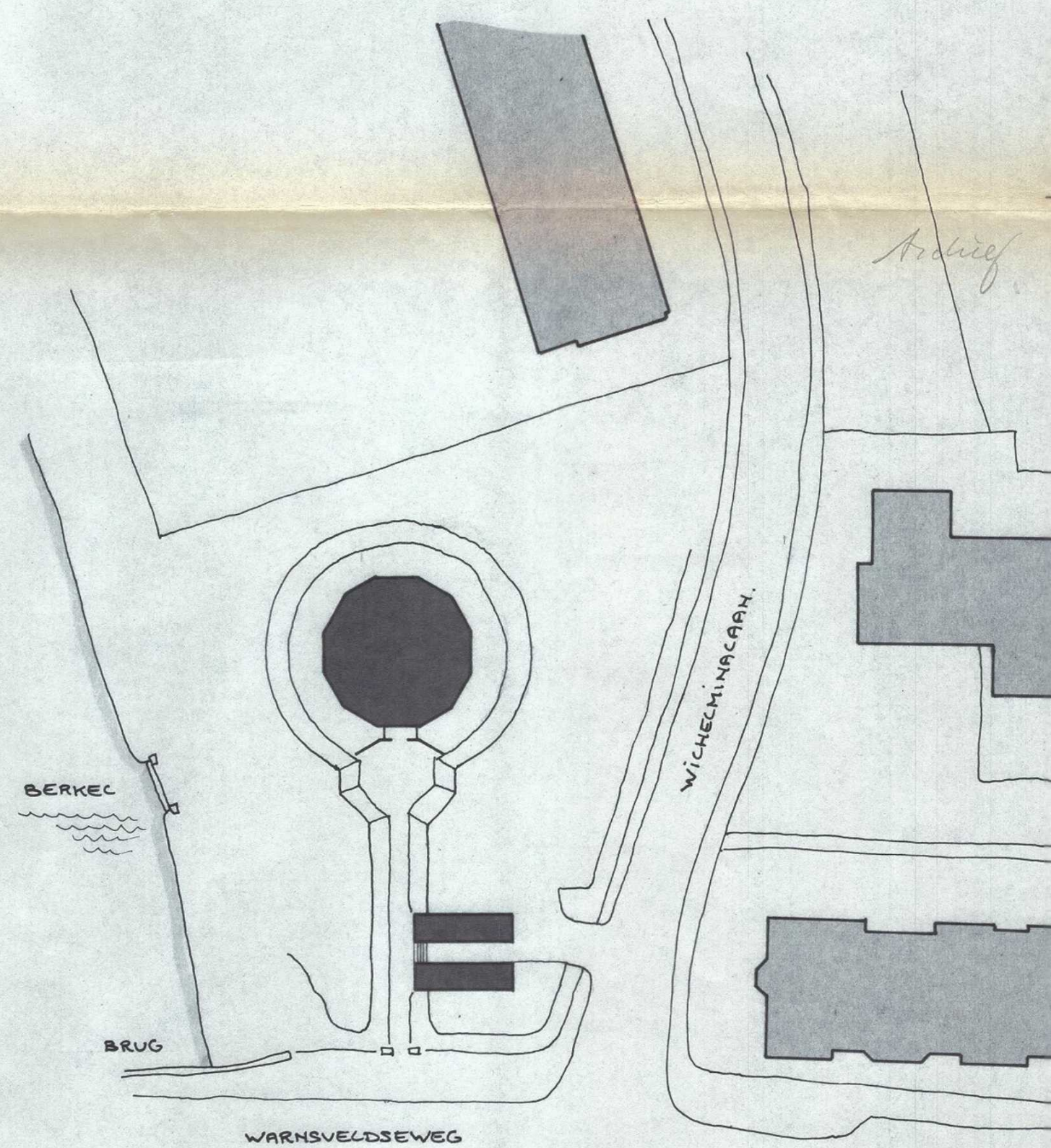
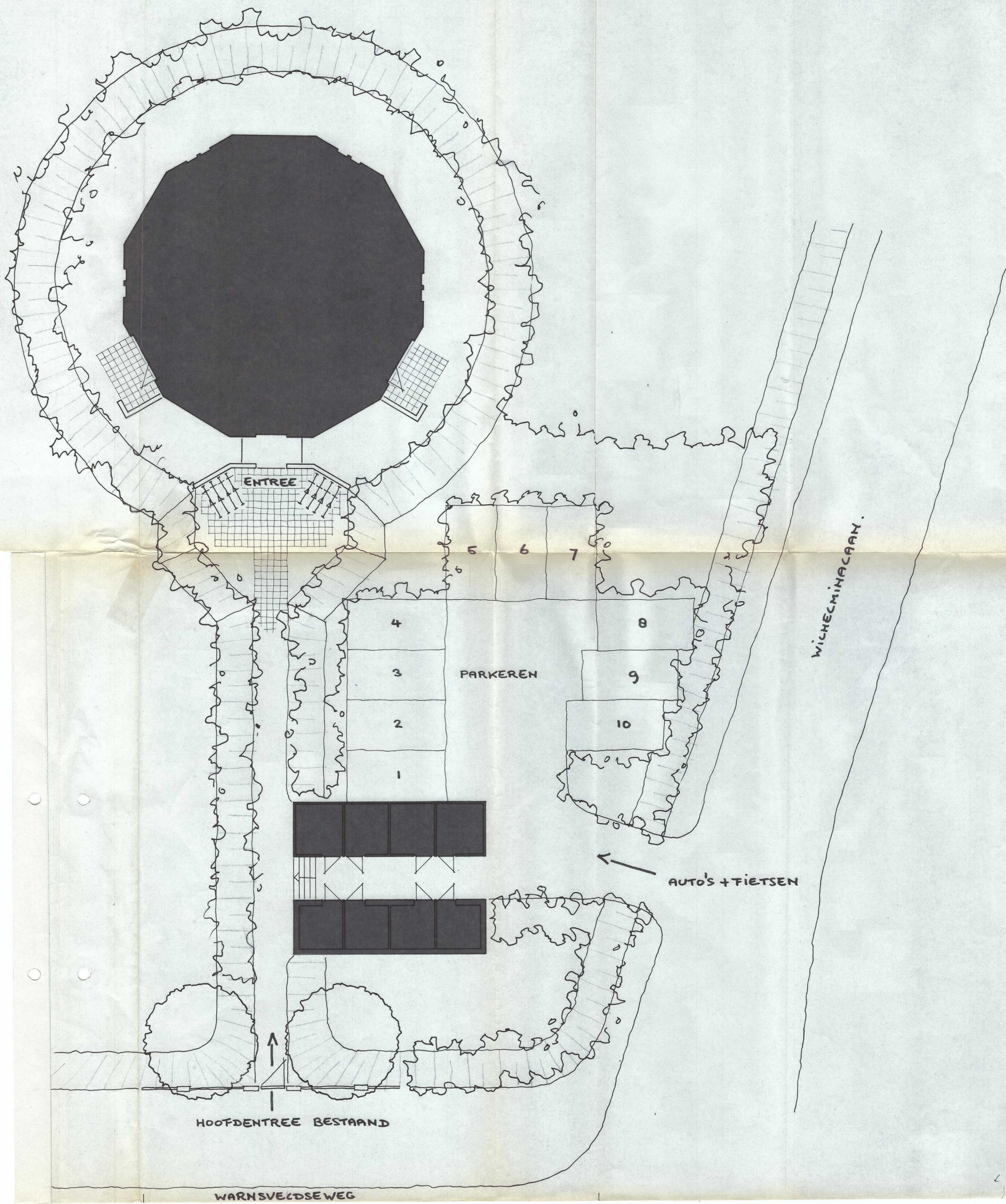
TEK.: [REDACTED] KON.: [REDACTED] DATUM: 27-03-1984

GEW.: [REDACTED] SCHAAL: 1: 20

a b c d

PROJ. NO.: 82025 ARCHIEF: 5265 - 4 BLAD:

W8



SITUATIE : 1:500.
 SEKTIE : B 3870
 B 3998 GED.
 GEMEENTE ZUTPHEN.

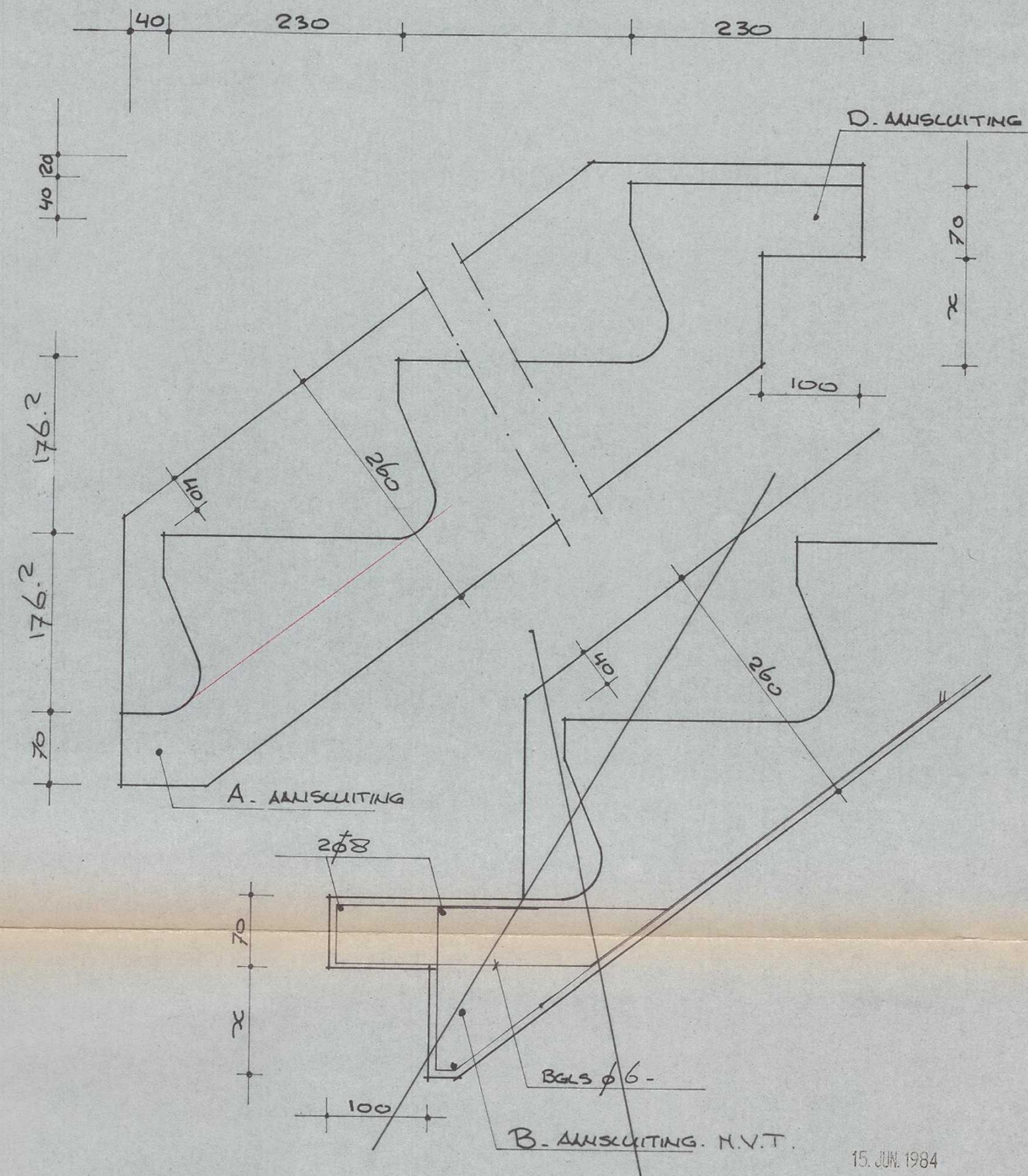
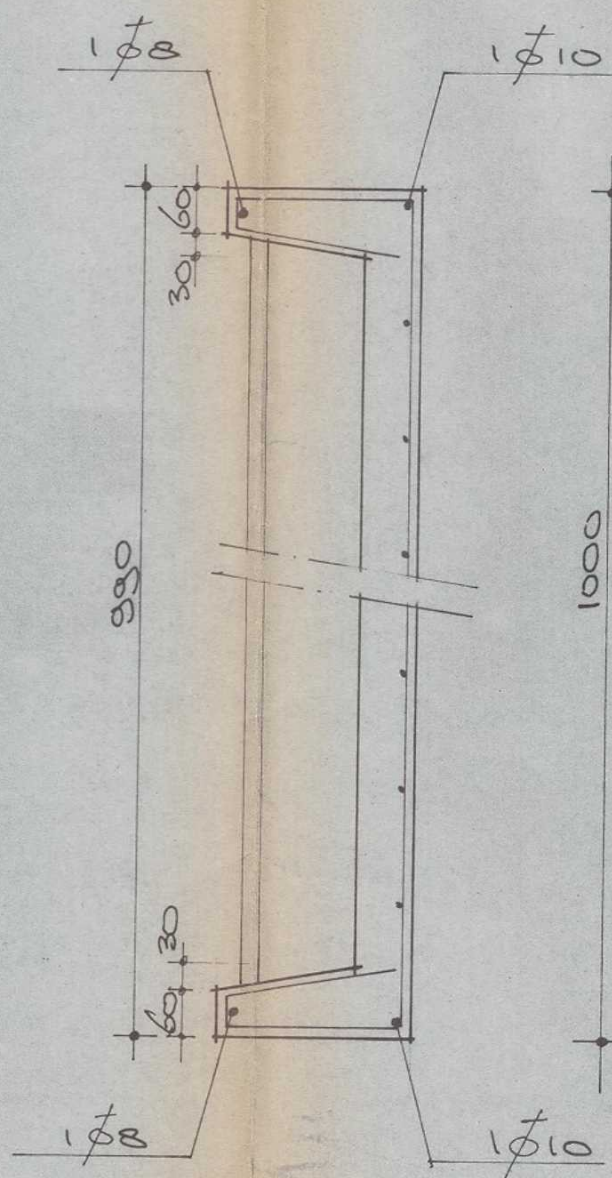
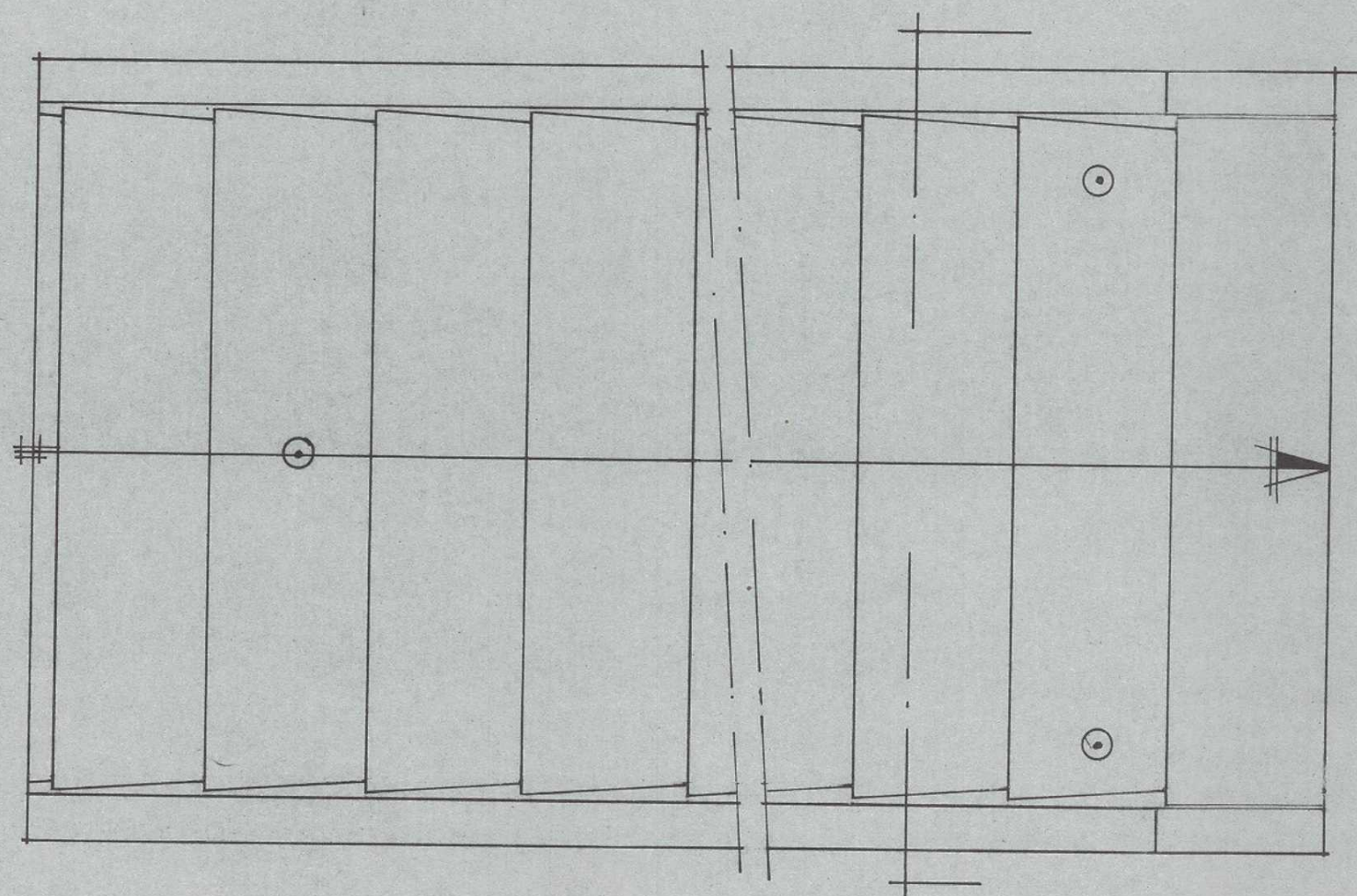
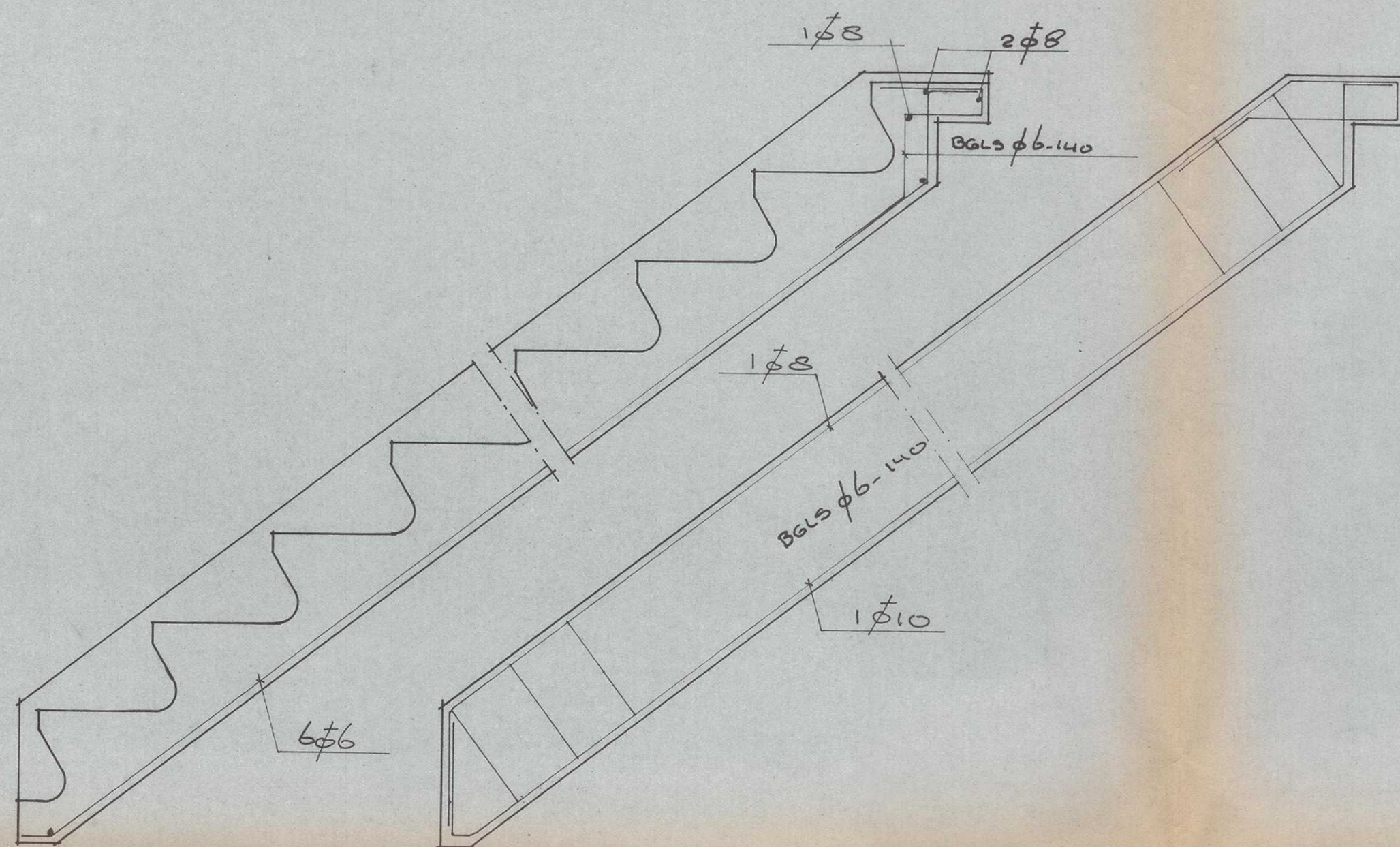
PROJEKT	8 2 PERS. HUISHOUDENS IN DE ZUTPHENSE WATERTOREN
OPDRACHTGEVER	WONINGBOUWVER. ZUTPHEN
ONDERWERP	SITUATIE BERGINGEN - PARKEREN - ENTREE
ONTWERP	ARCHITEKT ARCHITEKT AvB SIDNEYSTRAAT 68, 7203 HC ZUTPHEN 05750_18146

PROJEKT NO	8103
BLAD NO	B.01
SCHAAL	1:500 1:100
DATUM	23_6_1982
GET.	

OP TREDE 3 x 176² = 1585,8

70

40 230 230 2070



15 JUN 1984

ex Best
geacht
19/6/84

WHTC: 6 STUKS LANG 9 TREDE MET A-D AANSLUITING N.V.T.

UITVOERING			
NORMALE BETON			
STAAL FeB	BETON Kw B 22.5	GEWICHT	HIJSPUNT
FeB 400 φ	BETONDEKKING 15 MM	330 KG	DEHA
FeB 220 φ	MALNR		STUKS
A GEW	D GEW	SCHAAL 1:10 - 1:5	
B GEW	E GEW	DATUM 29.5.84	
C GEW	F GEW	GETEKEND	
WERK		BLAD No	
ZUTTEN		1	
OPDR GEVER		WERK No	
Bouwbedr. Hofman B.V. Beltrum		3343	

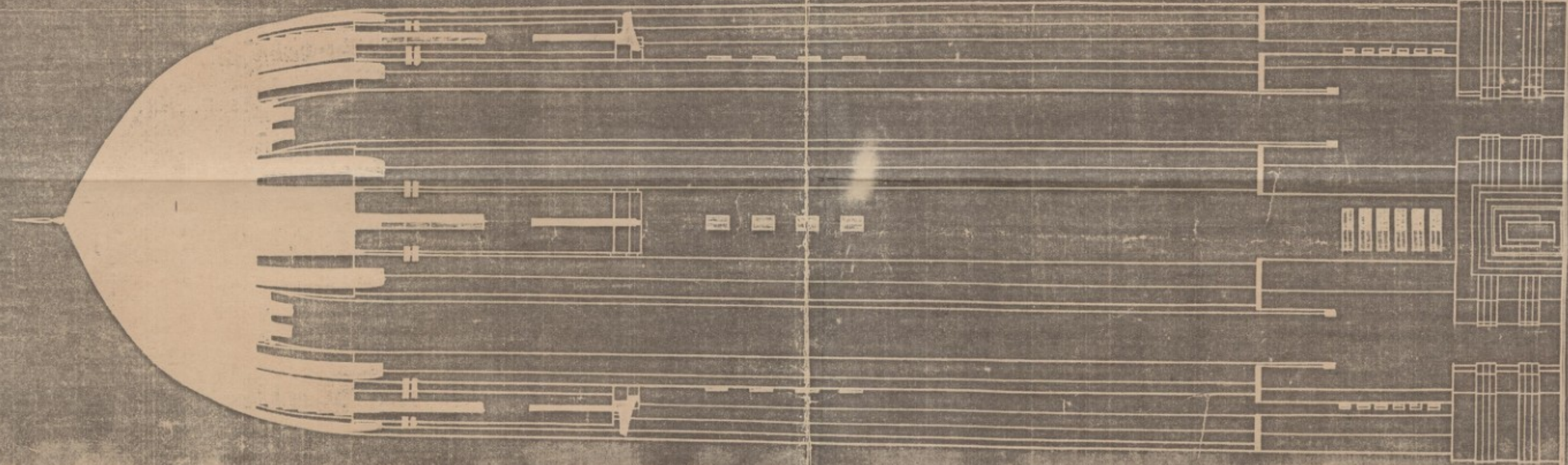


Handelsreg Groningen no 17336

Steenhuis Beton bv

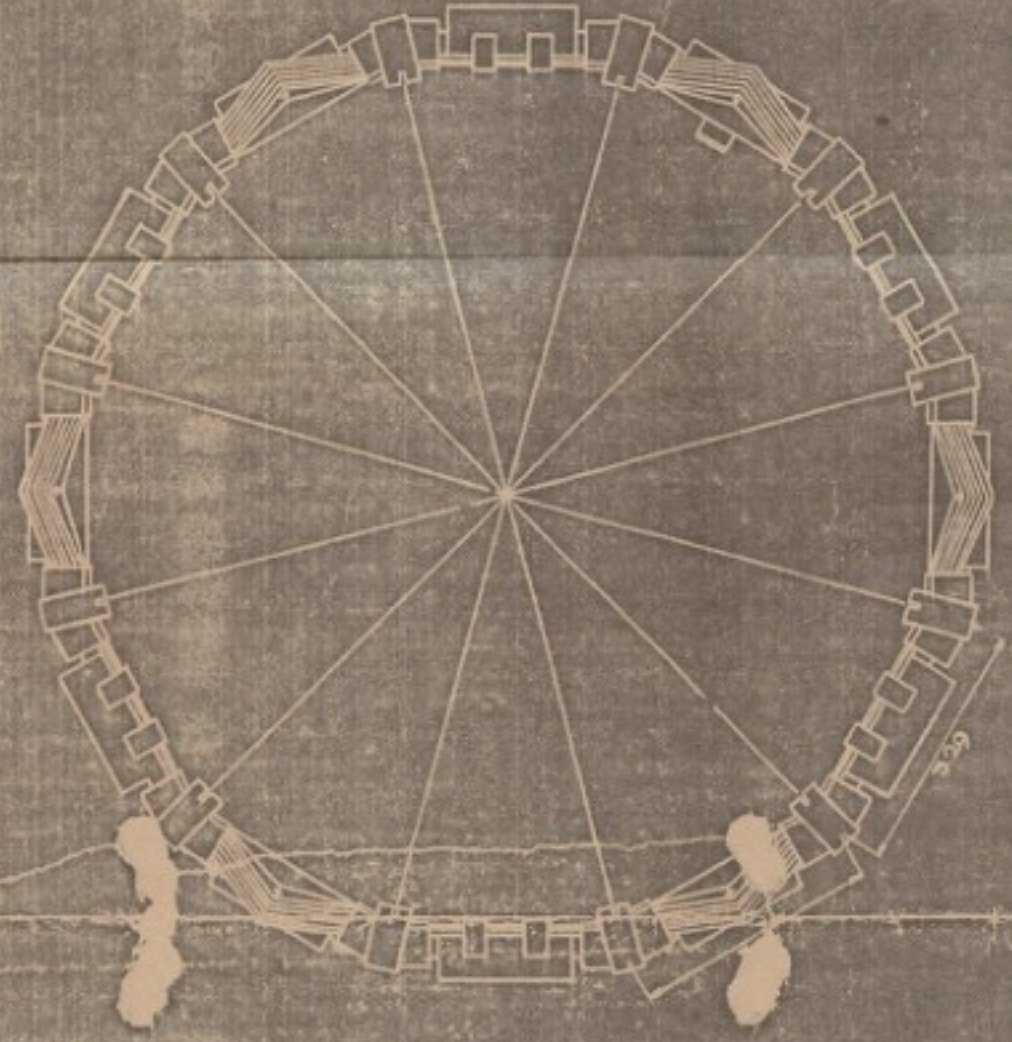
Postbus 22. 9982 ZG Urthuzermieden
Kaaipweg 12. 9982 EG Urthuzermieden
Tel 05954 13625 (3 lijnen)

WATERTOREN VOOR DE GEMEENTE ZUTPHEN SCHAA 1:1000



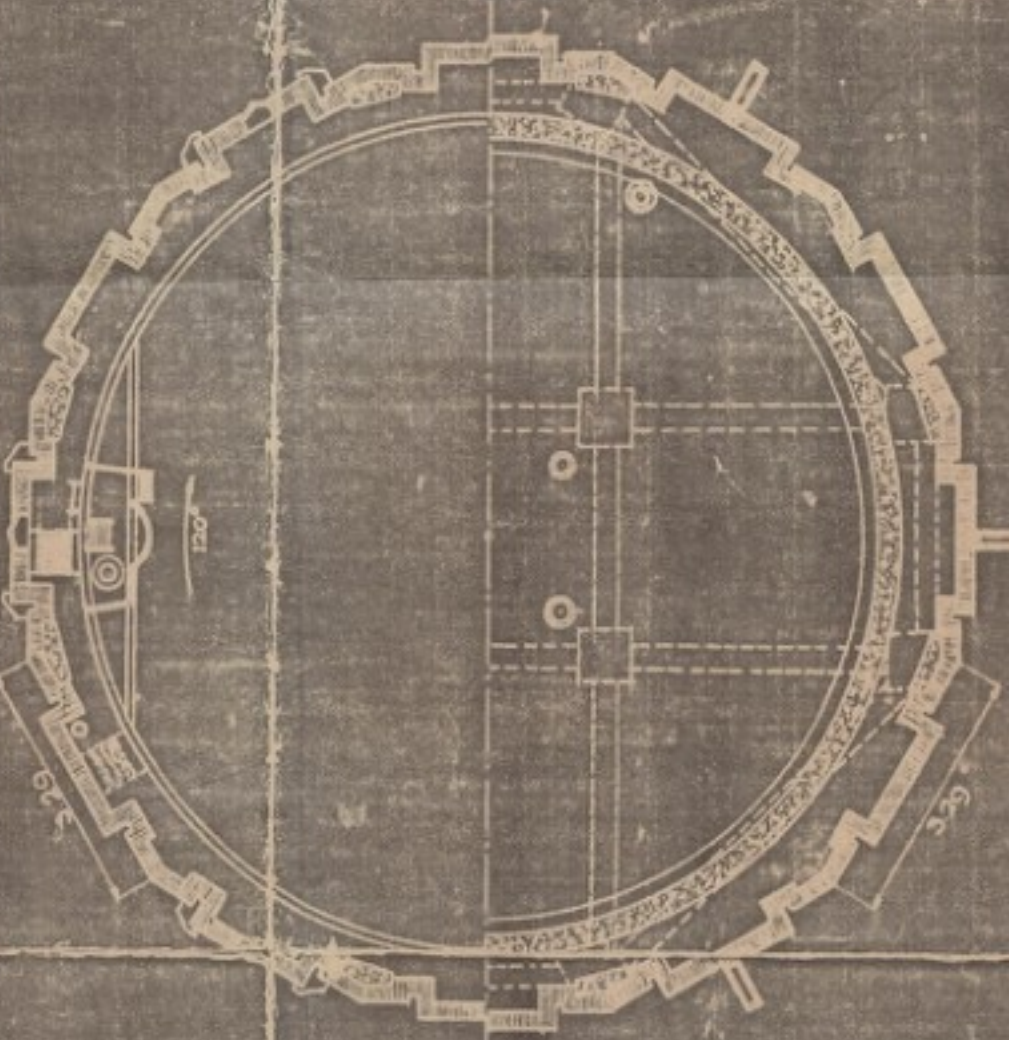
VOORAANZICHT

SOEDATIADE - JUL 1926
ZUTPHEN, DECEMBER 1926
BURGEMEESTER EN WETHOUDERS
VAN ZUTPHEN
Van der

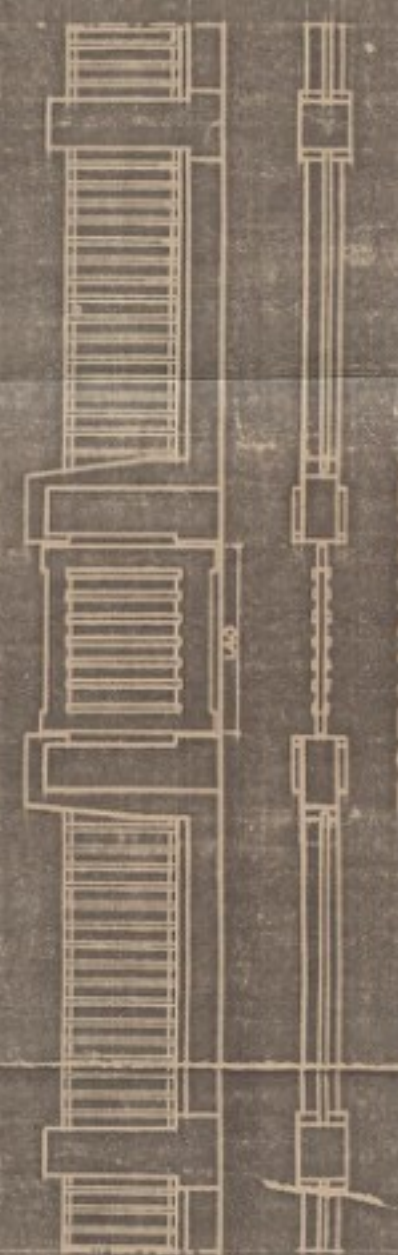


BOVENAANZICHT KAP

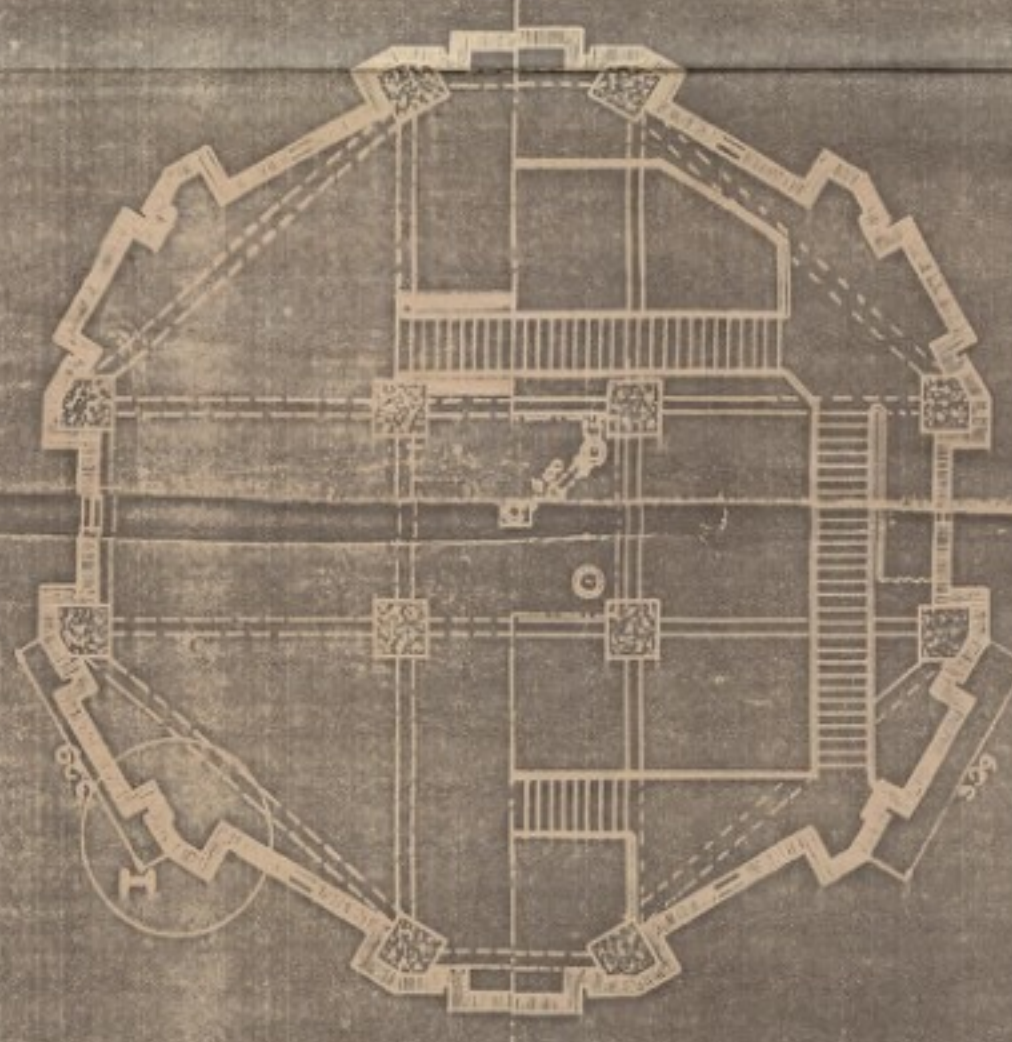
DOORSNEDE A-D
VOOR DE 'LUSTE' LIGGING 'PAST' ZIEZ. DOORSNEDE
ZUTPHEN, DECEMBER 1926



DOORSNEDE C-D



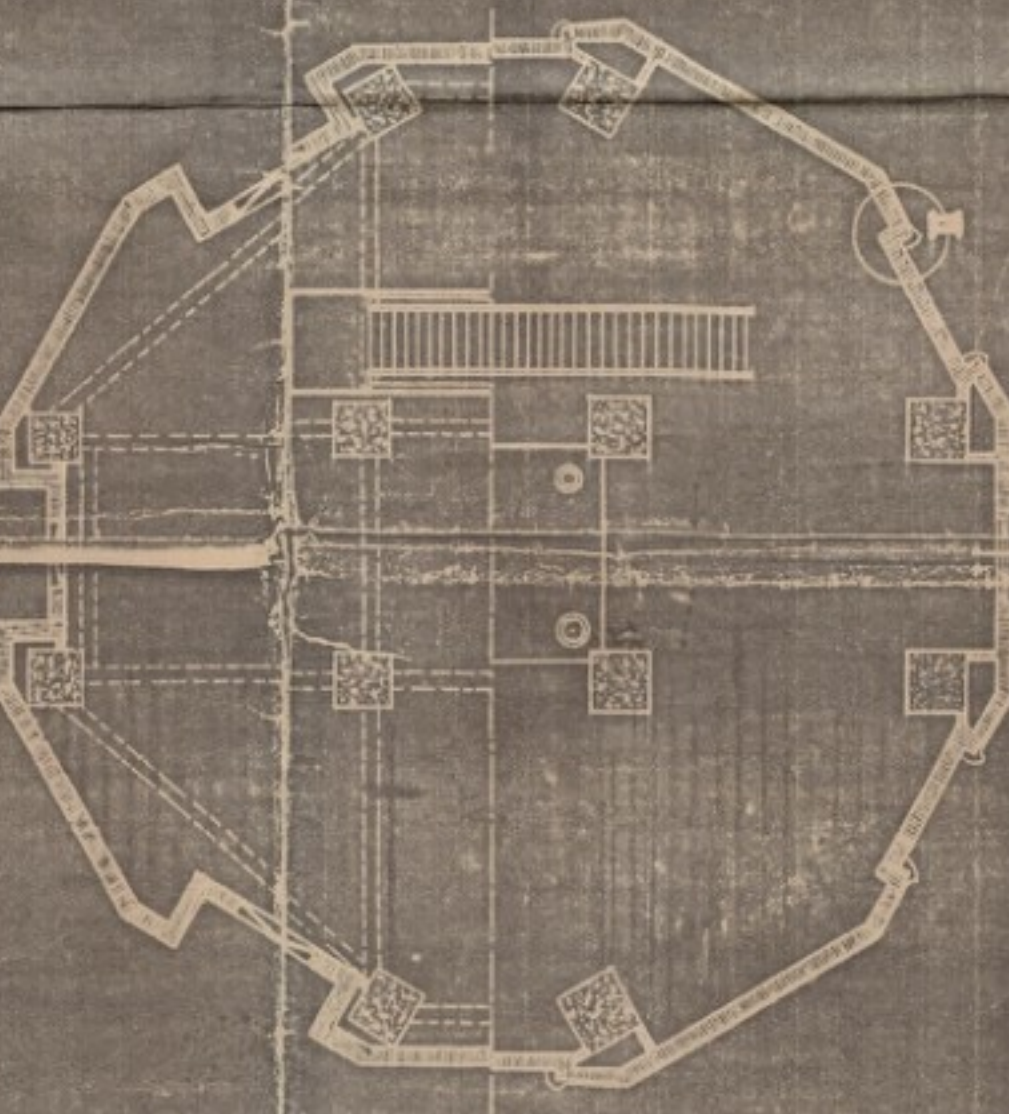
TOEGANGSDEK
SCHAA 1:100



DOORSNEDE E-F

DOORSNEDE G-H

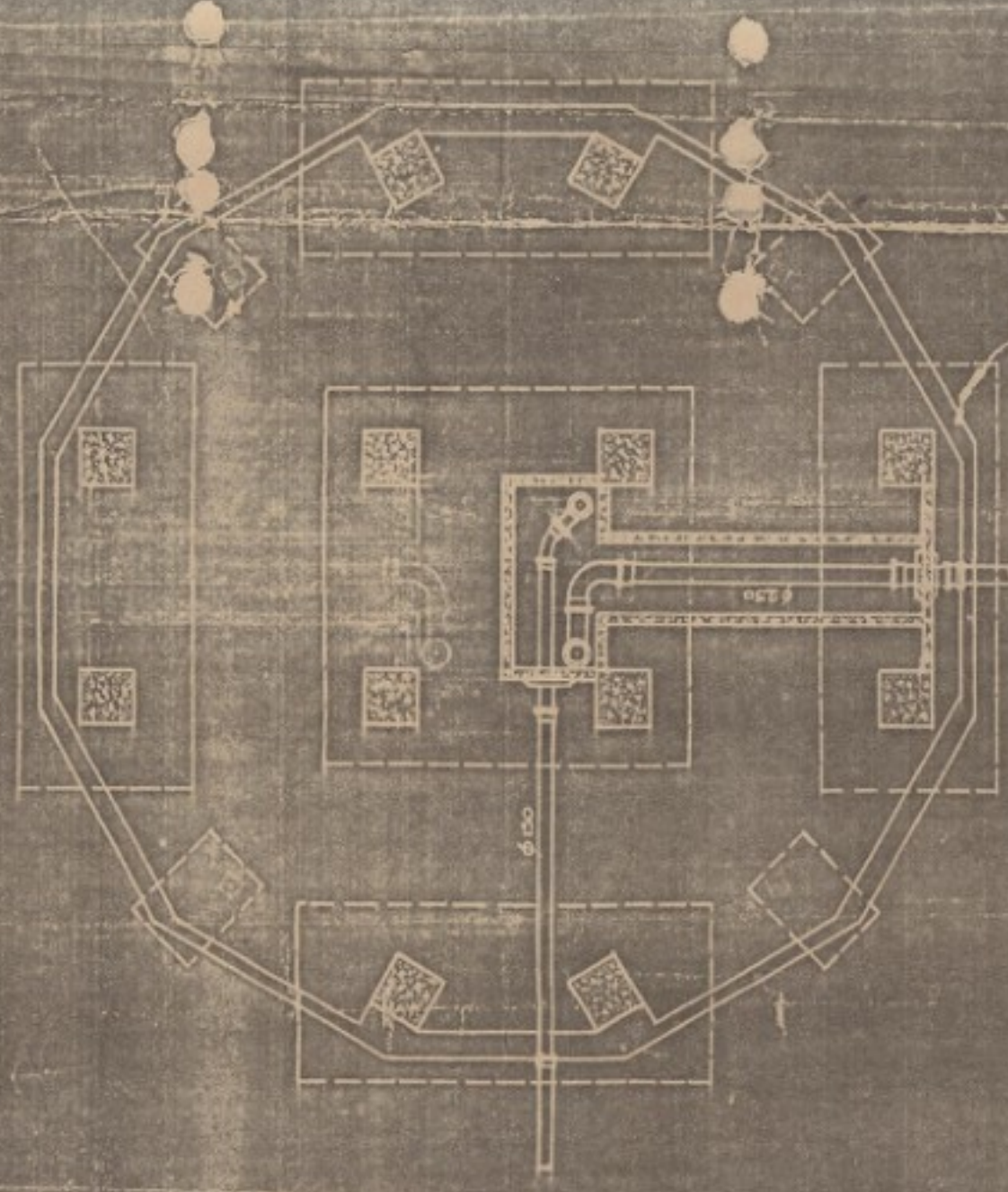
DOORSNEDE J-K



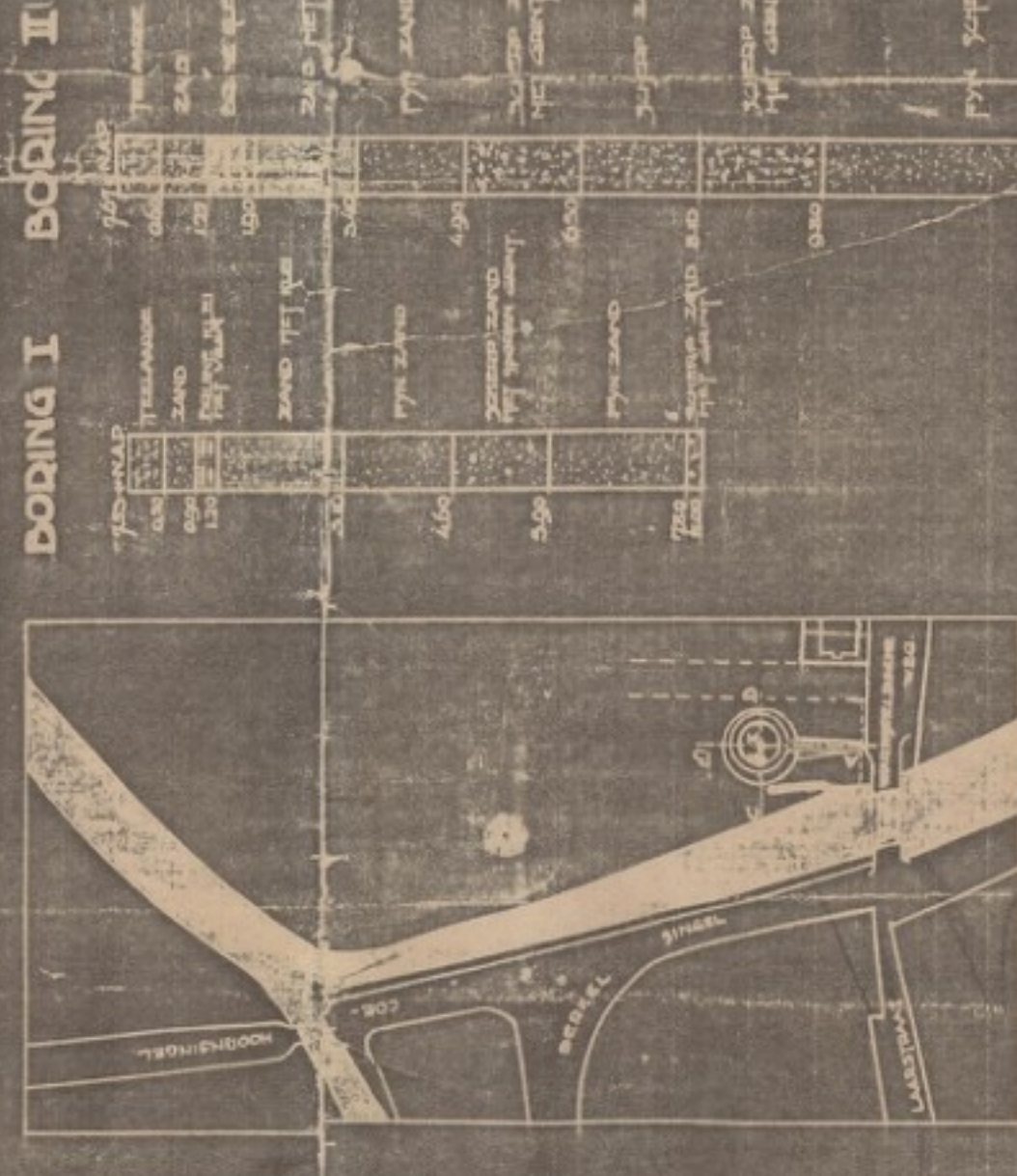
DOORSNEDE L-M



DETAIL I
SCHAA 1:100



FUNDEERING



DETAIL II
SCHAA 1:100

SITUATIE
SCHAA 1:1000

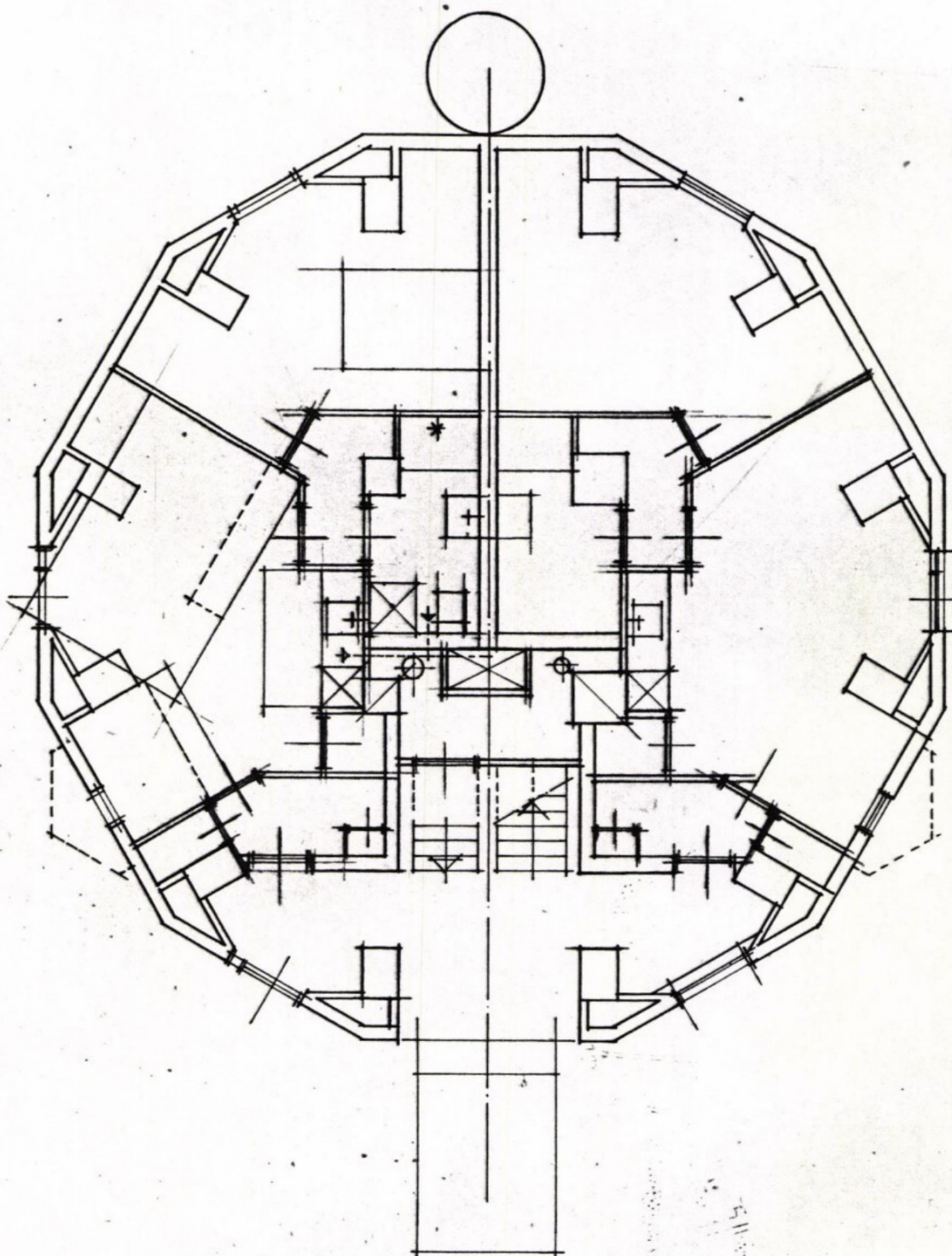


DWAARSPROFIEL A-B
HOOGTEMATEN TEN OPZICHT VAN N.A.P.



DWAARSPROFIEL C-D
HOOGTEMATEN TEN OPZICHT VAN N.A.P.

3 GRAVENHAGE, DECEMBER 1926
DE 'AANNEEMER'
DE BORGEN

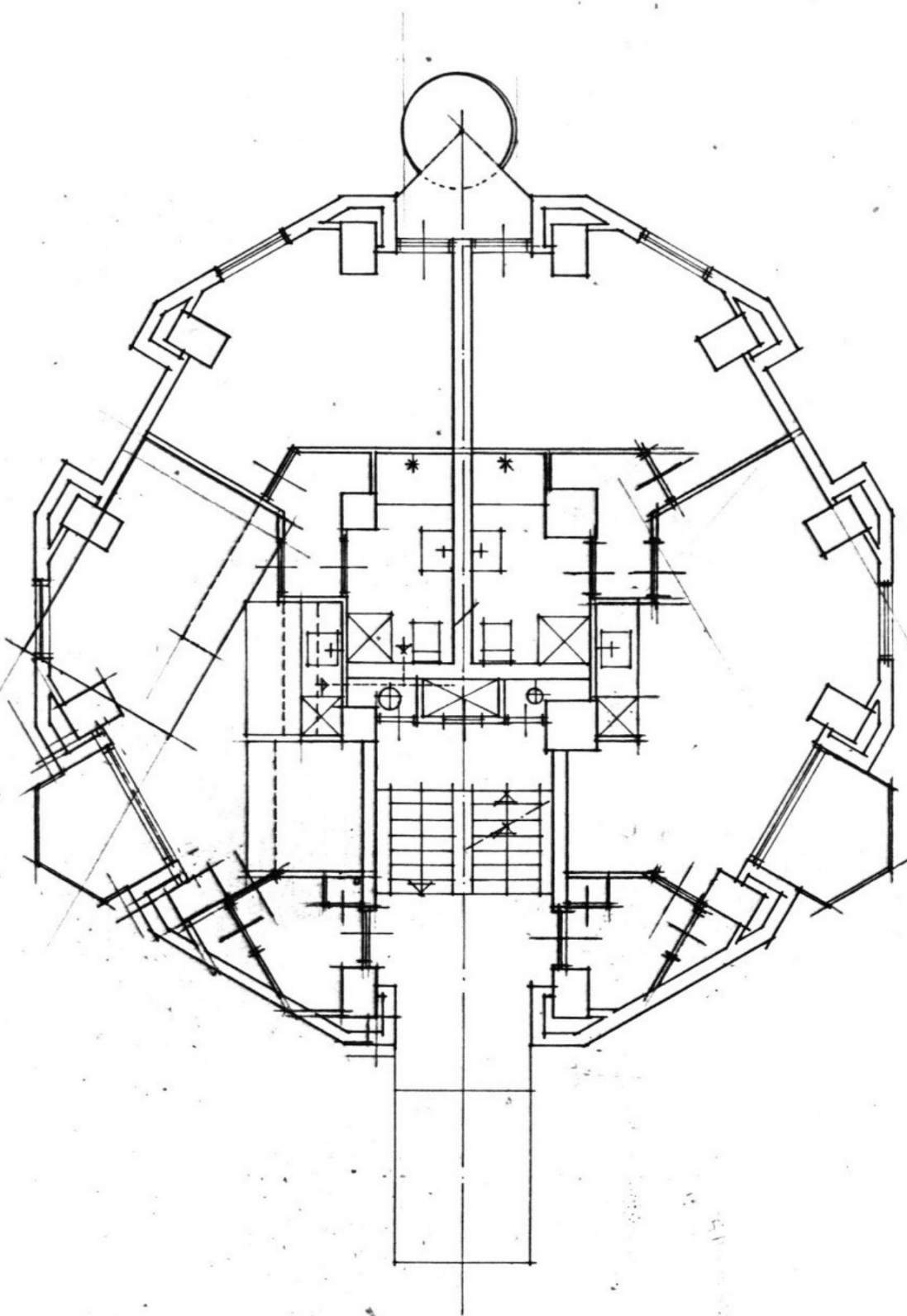


gewijzigde plattegrond

begane grond

SCHAAL 1:100
D.D. MEI 1982

-3. MEI 1982

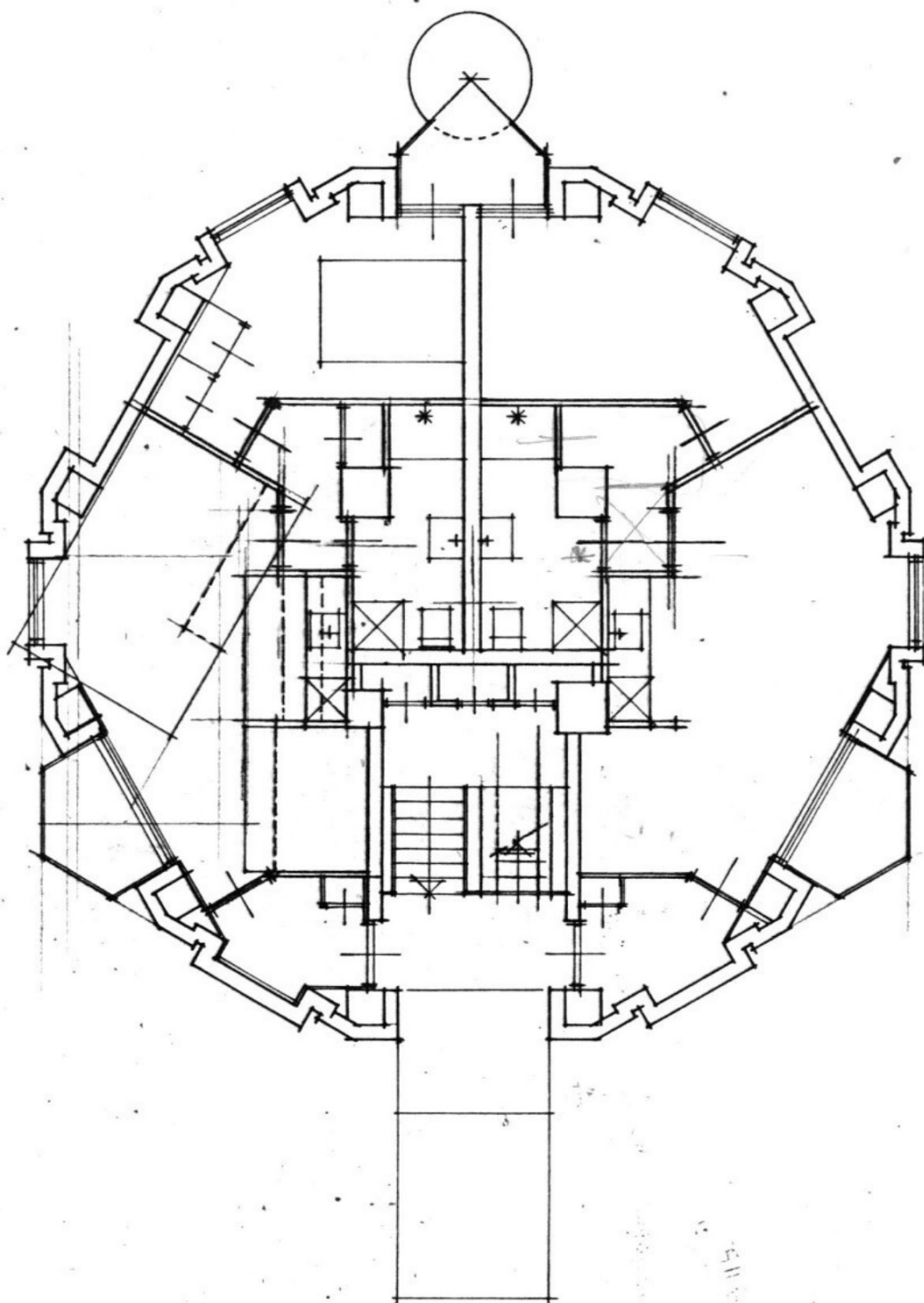


gewijzigde plattegrond

1^e verdieping

SCHAAL 1: 100
D.D. MEI 1982

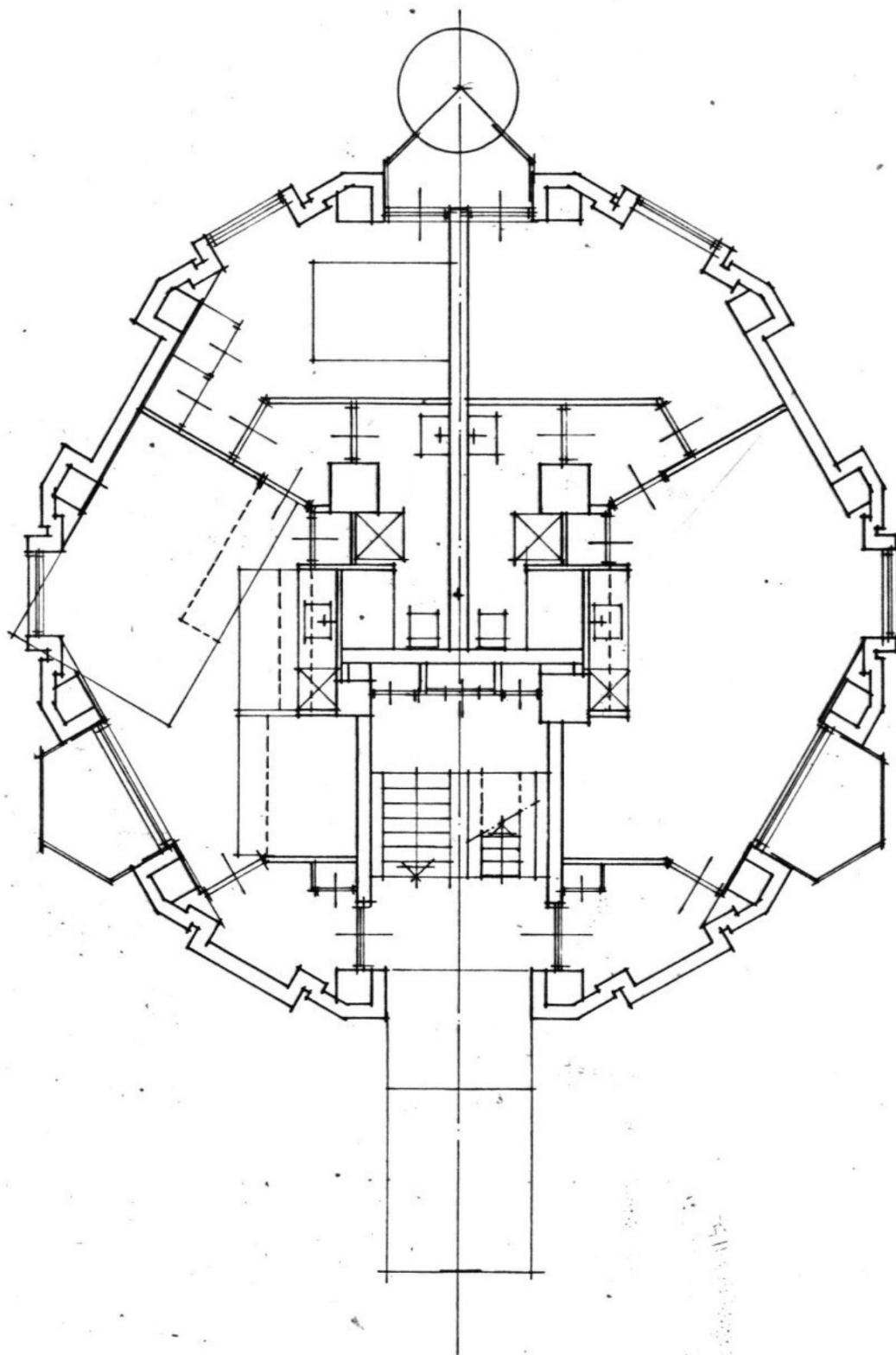
-3. MEI 1982



alternatief — plattegrond 2^e 7^e verdieping

SCHAAL 1:100
D.D. MEI 1982

-3 MEI 1982

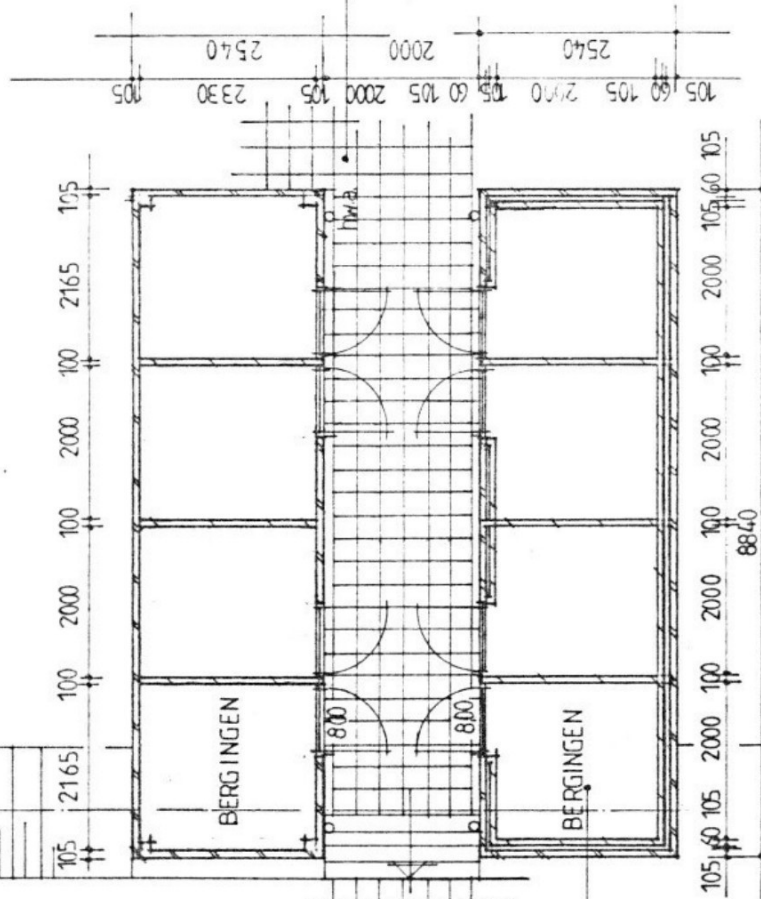


gewijzigde plattegrond 2^e-7^e verdieping

SCHAAL 1:100
DD MEI 1982

-3 MEI 1982

aansluiting bestaande hoofdentree WARNSVELDSEWEG

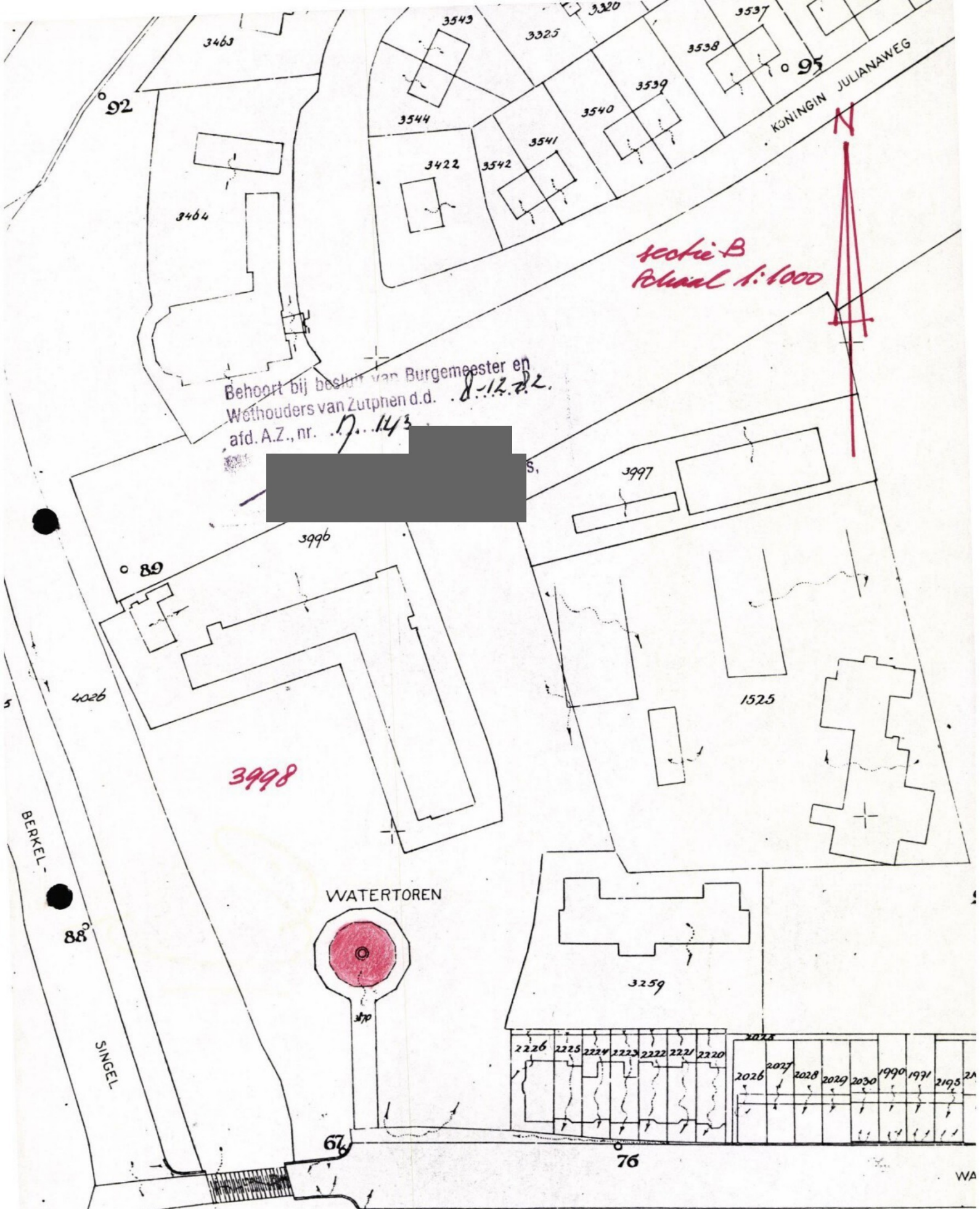


konstruktie voldoet aan
schuipplaatsen besluit

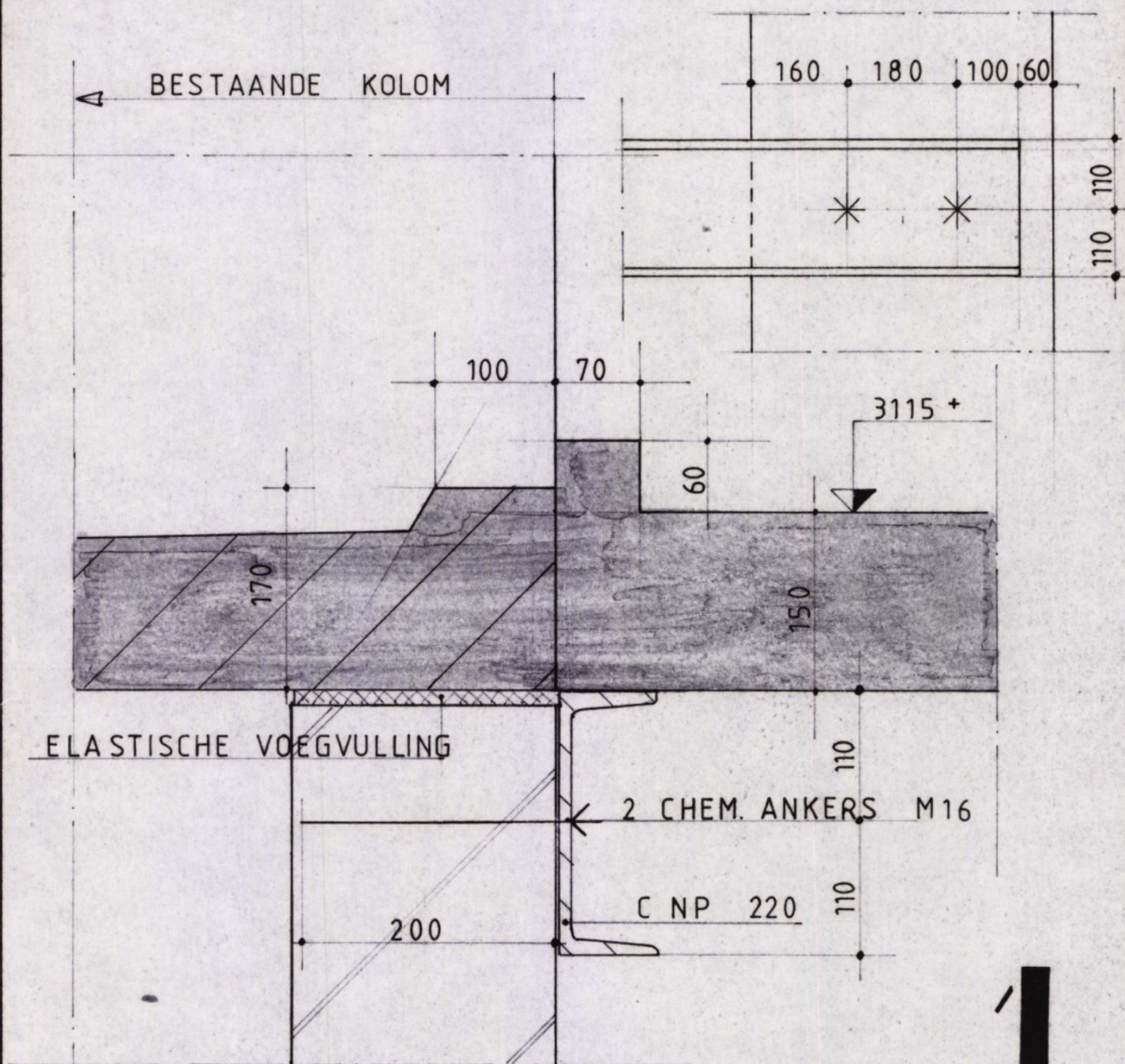
bestrating aansluiten op "p"

BEGANE GROND

500



OPENBARE WERKEN
ZUTPHEN
afd. bouw- en
woningtoezicht



BALKONPLAAT 3e VERDIEPINGSVLOER

- 2 chem. ankers M16 per balkeinde in kolom
- boorgat: $\varnothing$ 18 mm, diep 200 mm, 1 kunstharskapsule

SCHAAL 1 : 5

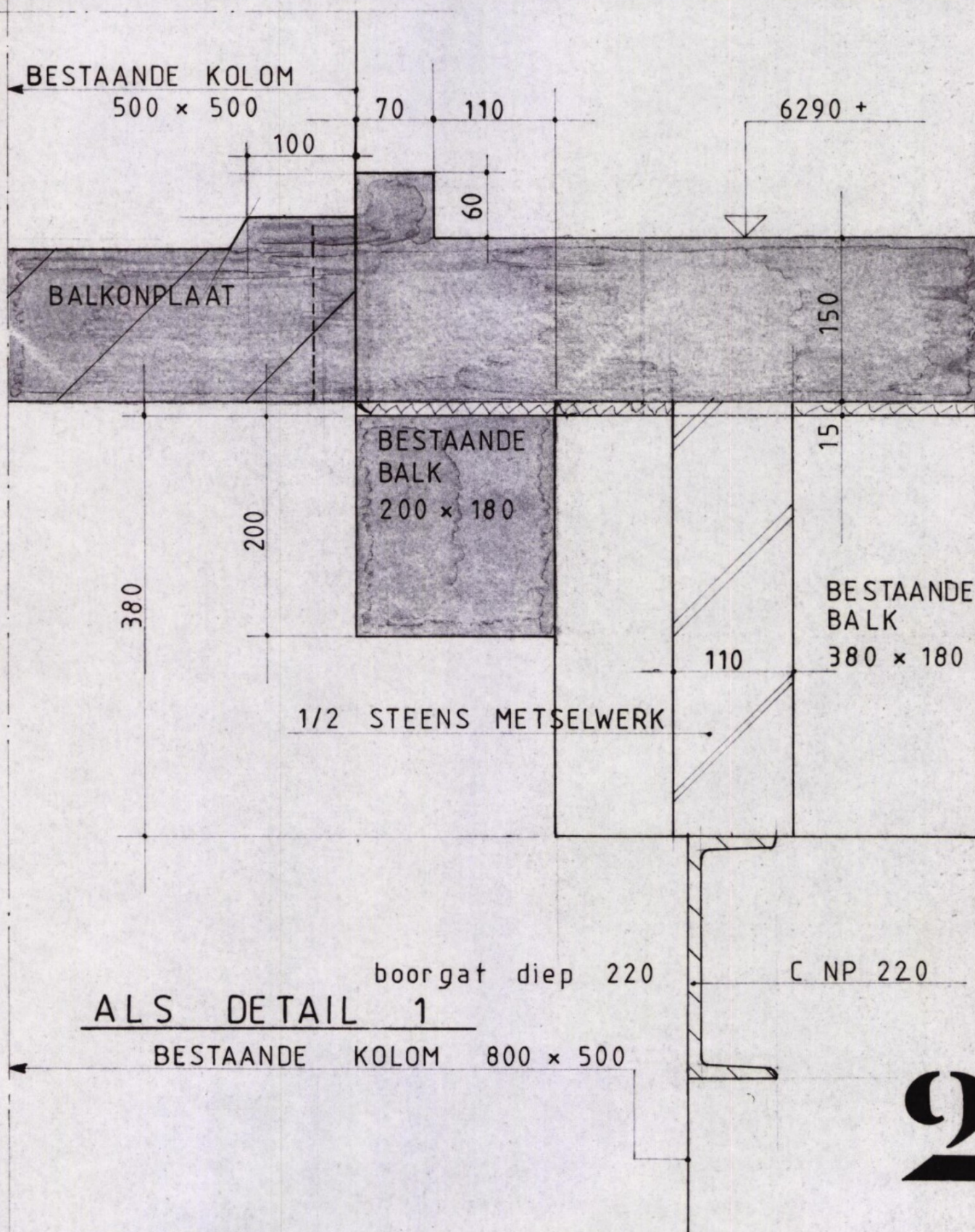
projekt:
WATERTOREN ZUTPHEN

onderdeel:
DETAILS

no:
82025

blad:
1

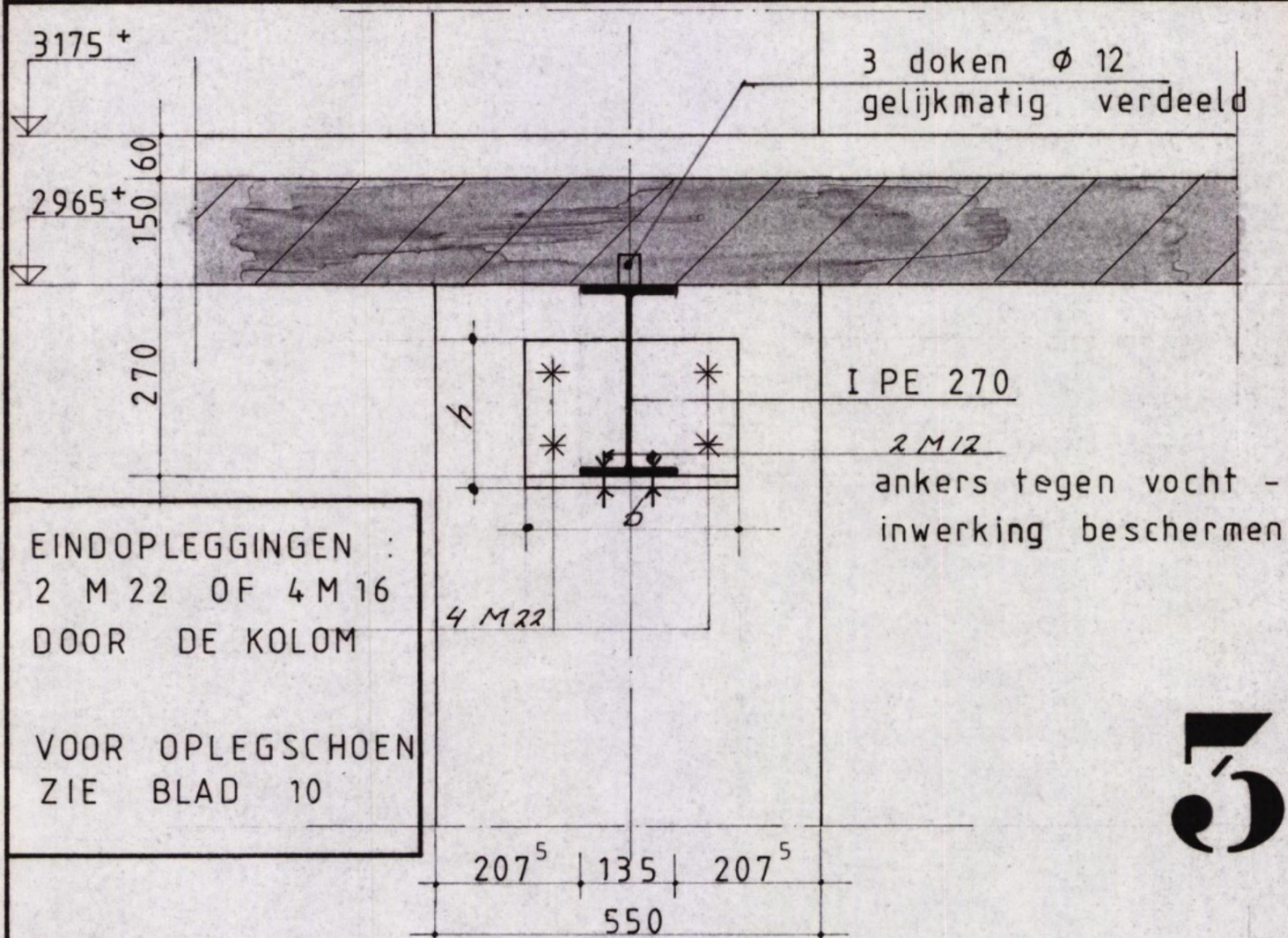
ex 13w1
gen wbl
11/5/02



2

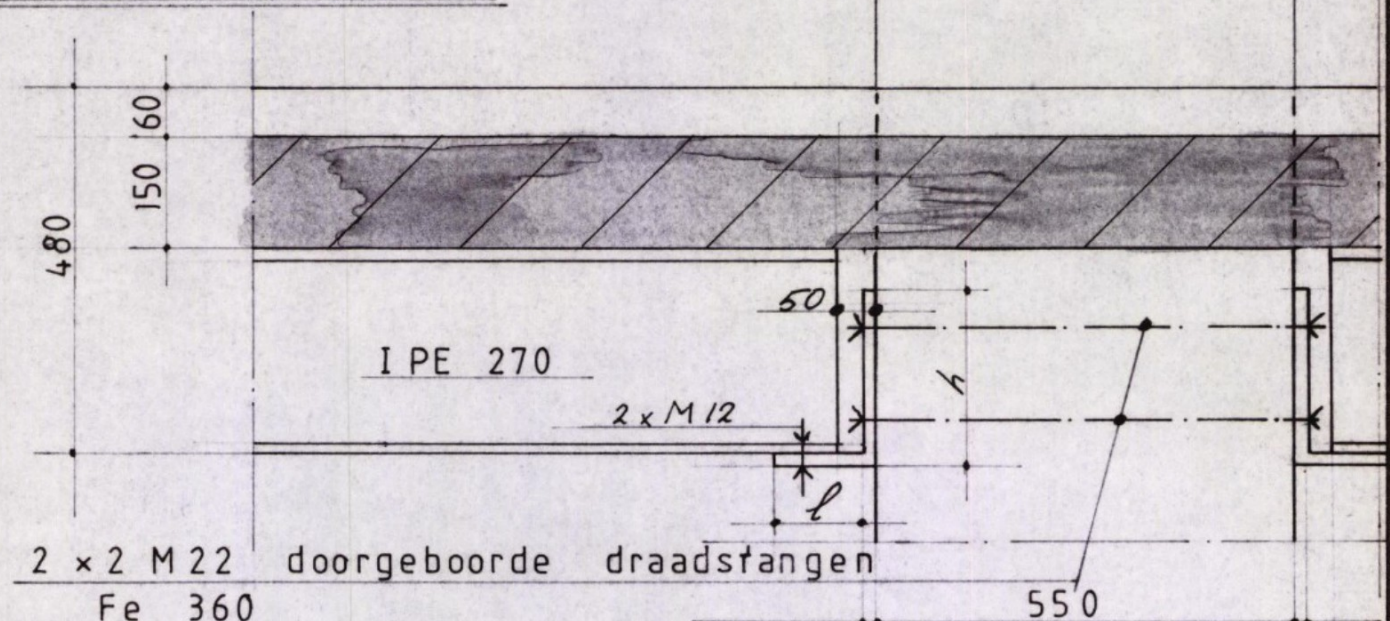
SCHAAL 1: 5

projekt: WATERTOREN ZUTPHEN	onderdeel: DETAILS	no: 82025	blad: 2
---------------------------------------	------------------------------	---------------------	-------------------



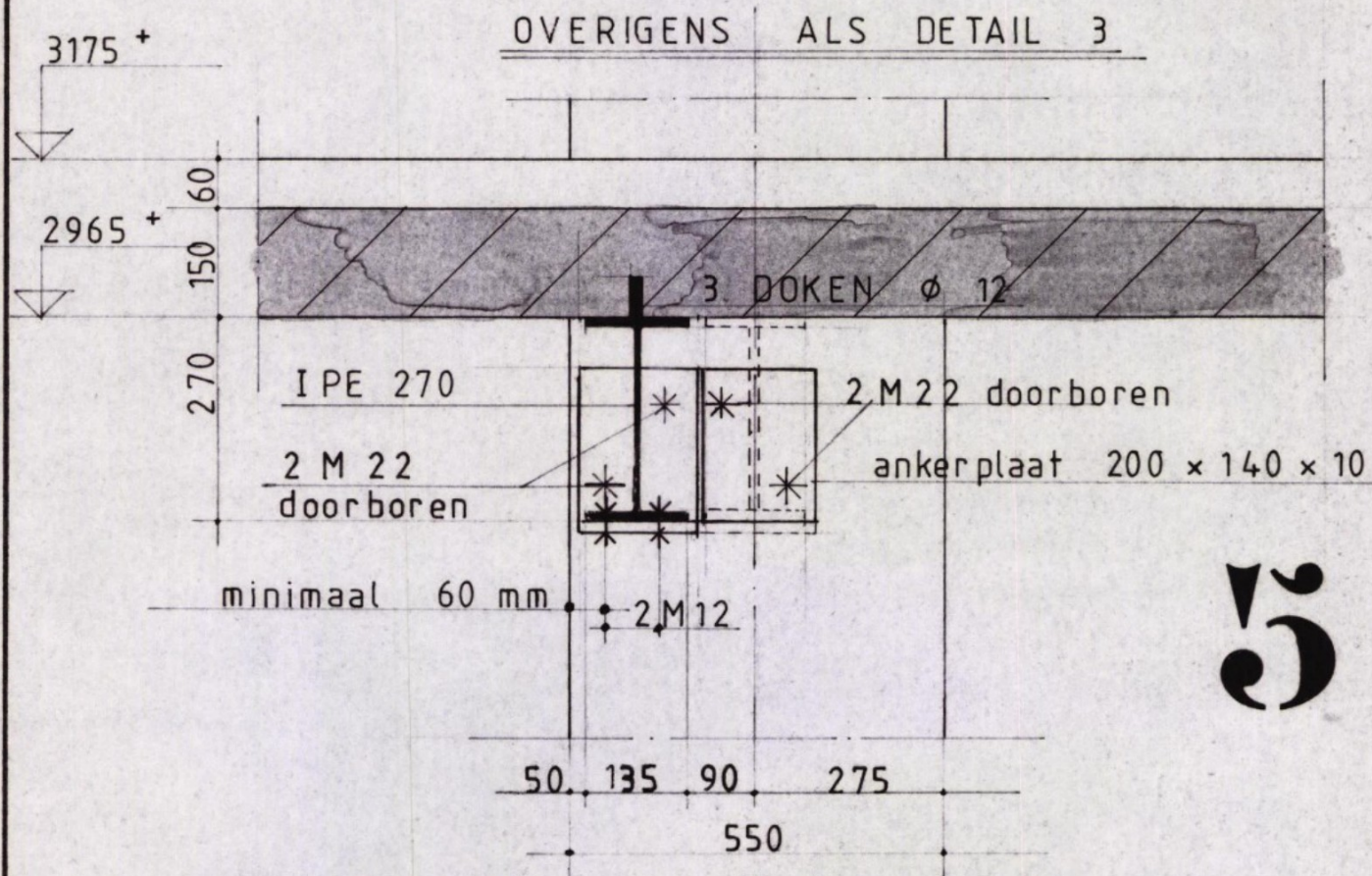
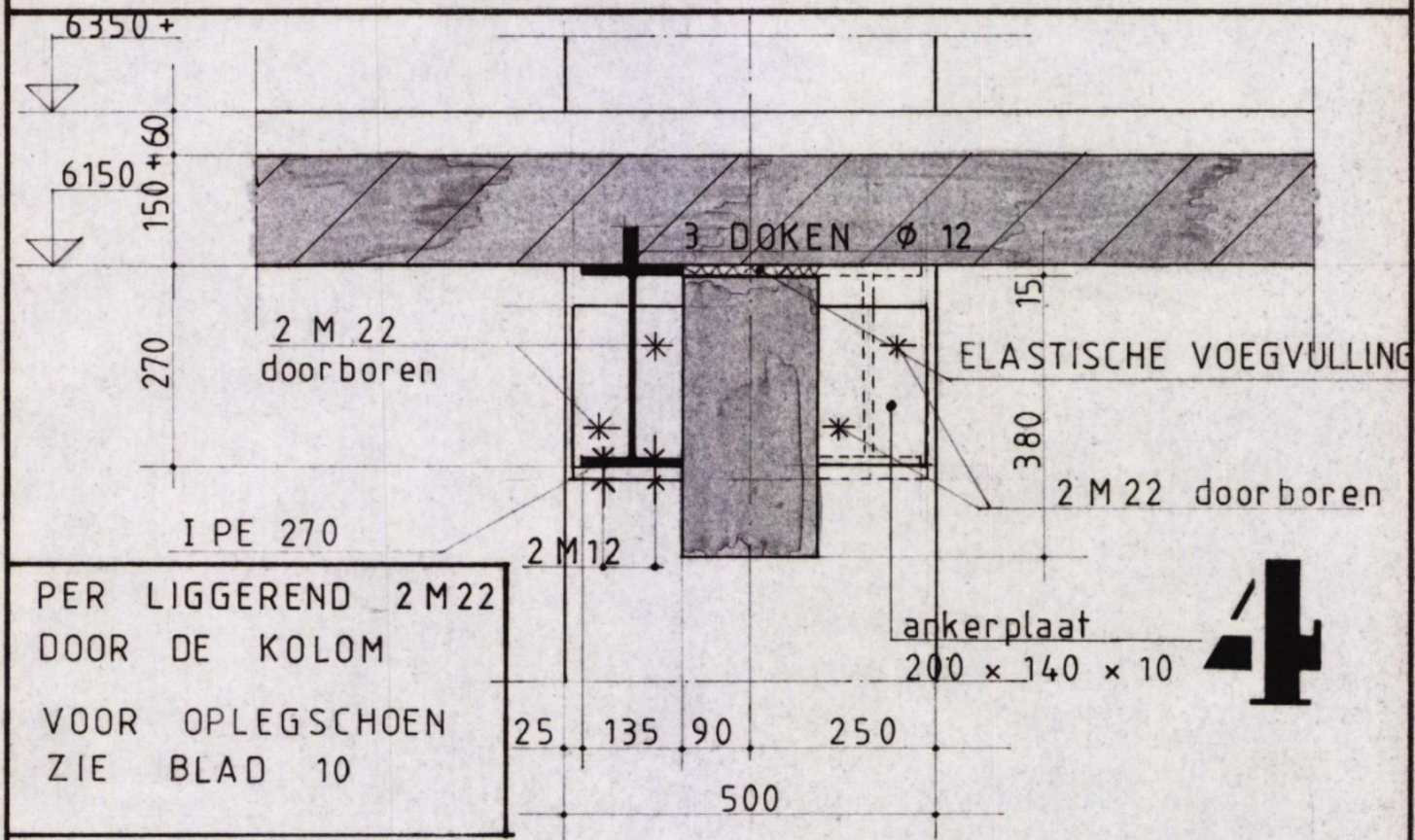
3

PRINCIPE DETAILS



OPHANGING VLOERDRAGENDE PROFIELEN

projekt: WATERTOREN ZUTPHEN	onderdeel: DETAILS	no: 82025	blad: 3
--------------------------------	-----------------------	--------------	------------



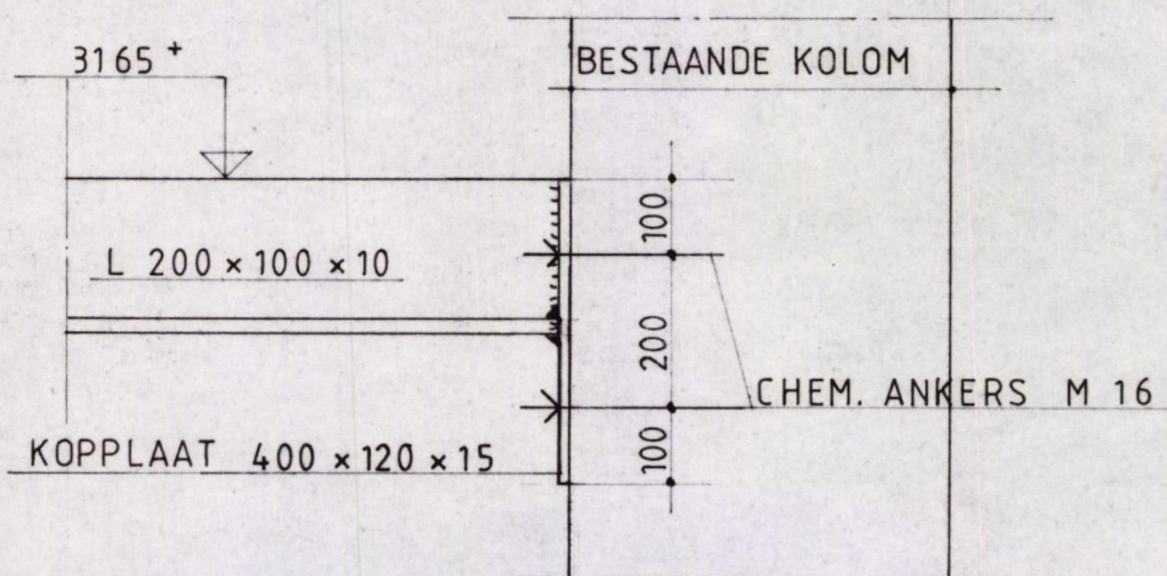
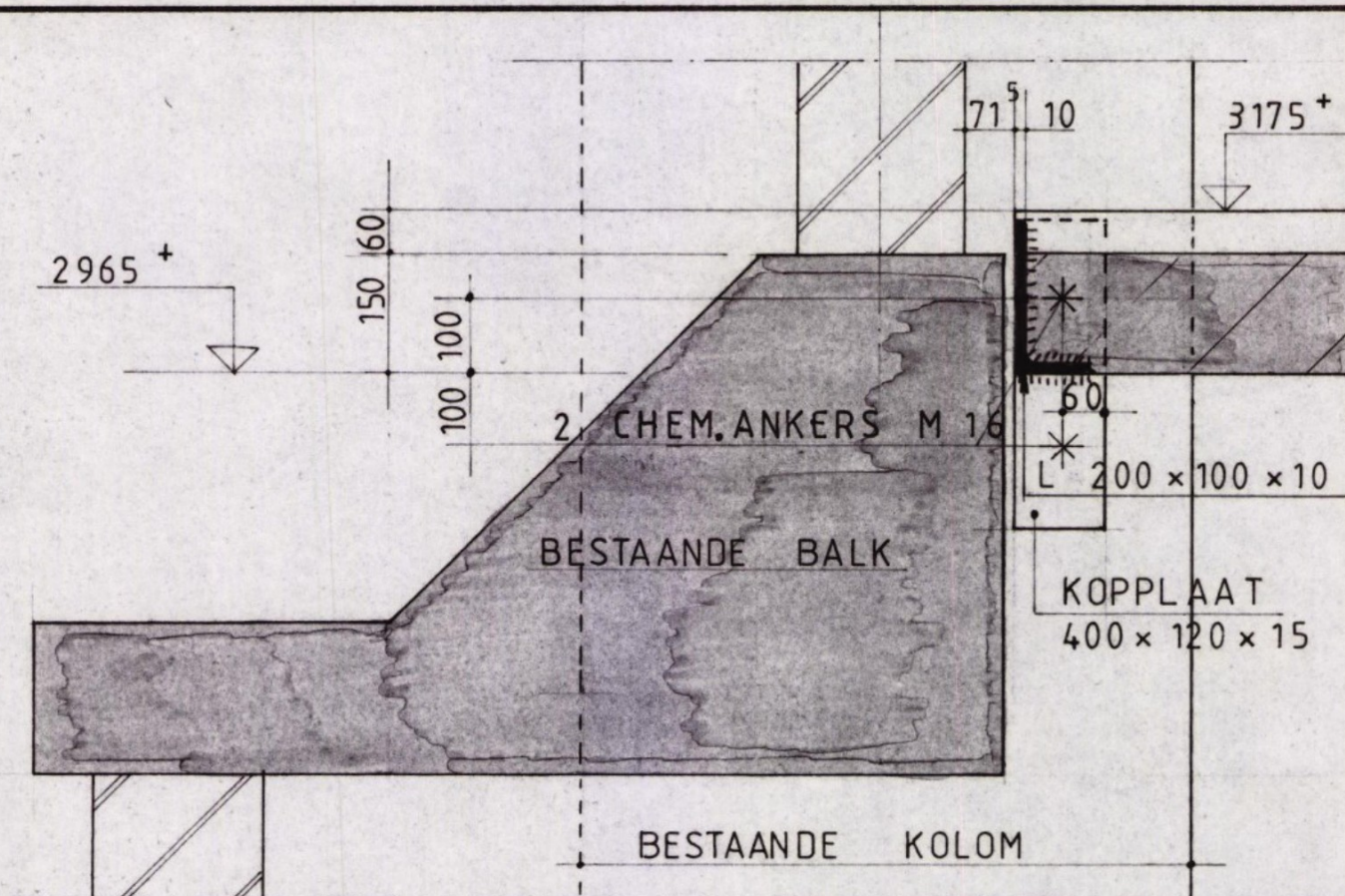
OPHANGING VLOERDRAGENDE PROFIELEN

projekt:
WATERTOREN ZUTPHEN

onderdeel:
DETAILS

no:
82025

blad:
4

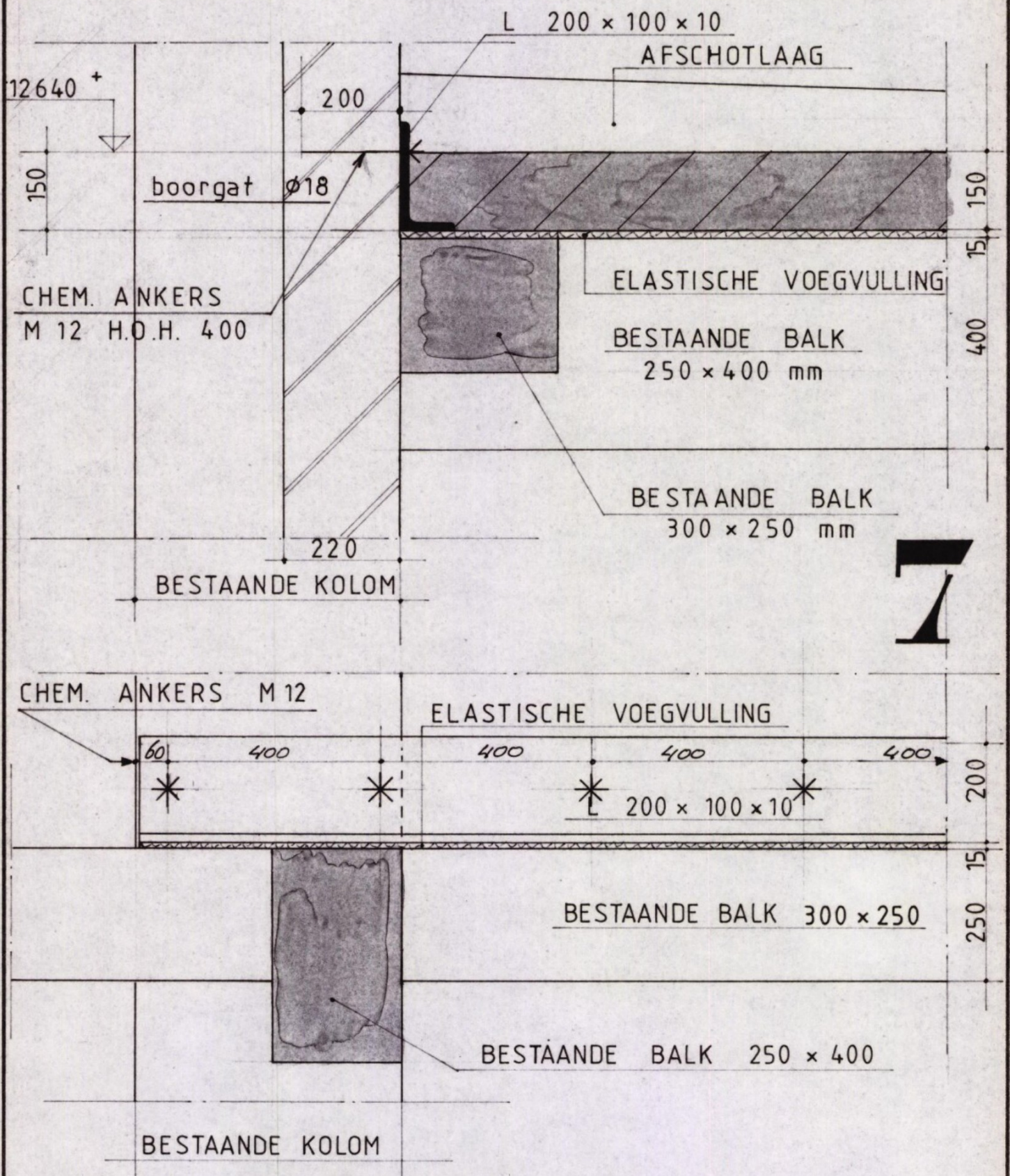


boorgat ϕ 18 mm , diep 220 mm

6

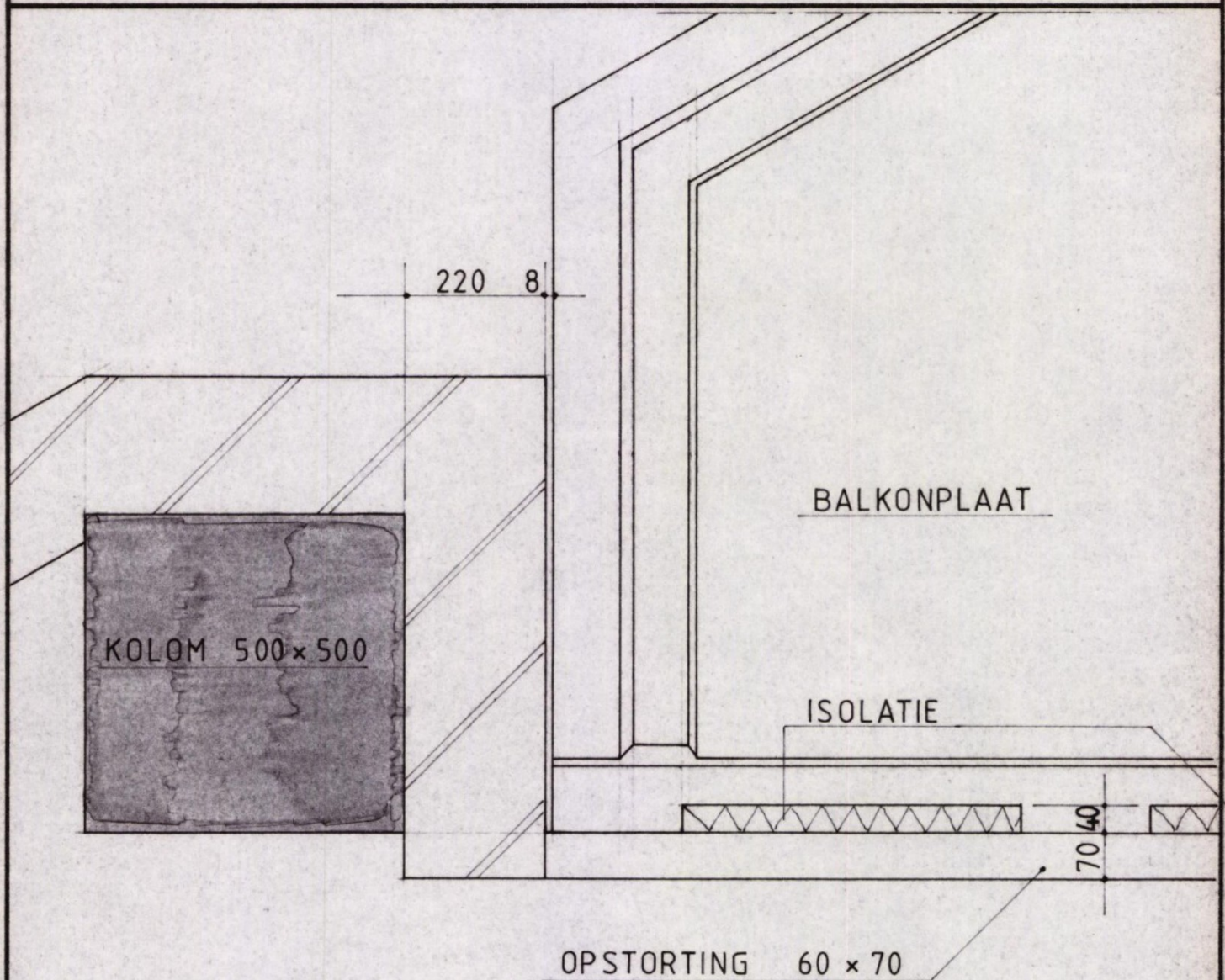
OPHANGING STAALPROFIEL AAN RANDKOLOM
1^e VERDIEPINGSVLOER

projekt: WATERTOREN ZUTPHEN	onderdeel: DETAILS	no: 82025	blad: 5
---------------------------------------	------------------------------	---------------------	-------------------



OPHANGING STAALPROFIEL AAN RANDKOLOM
4 VERDIEPINGSVLOER

projekt: WATERTOREN ZUTPHEN	onderdeel: DETAILS	no: 82025	blad: 6
--------------------------------	-----------------------	--------------	------------



8

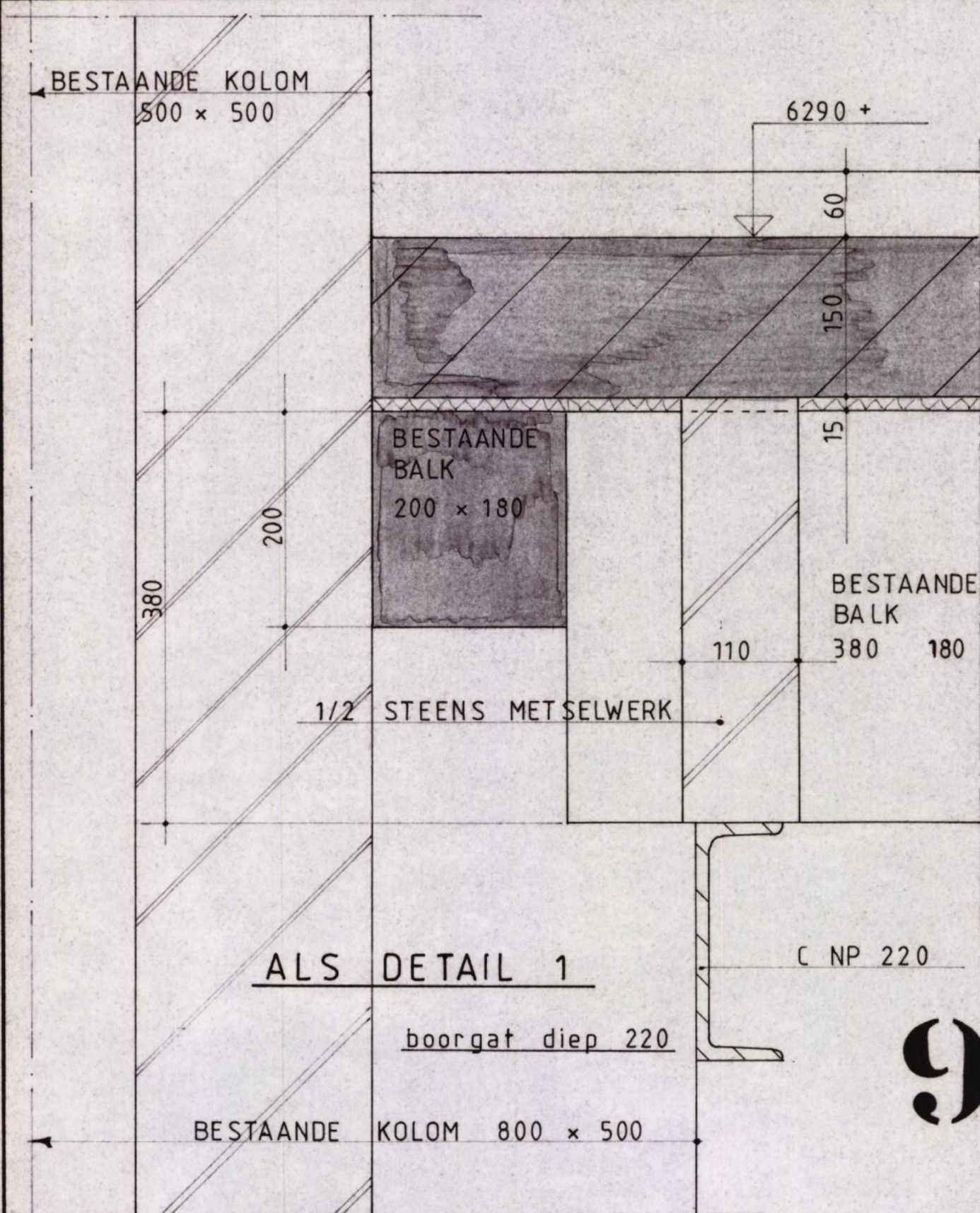
AANSLUITING BALKONPLAAT

projekt:
WATERTOREN ZUTPHEN

onderdeel:
DETAILS

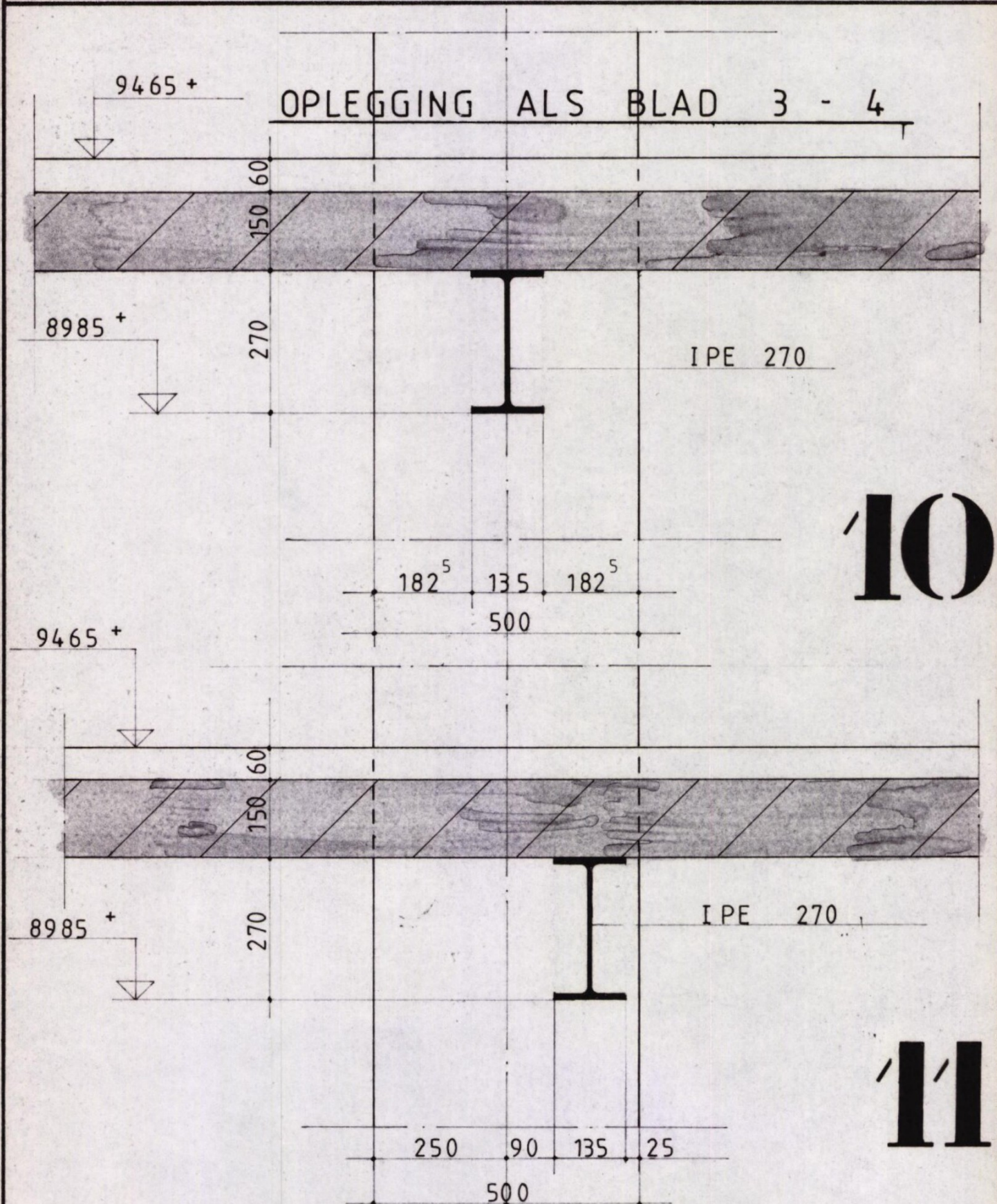
no:
82025

blad:
7



VLOEROPLEGGING 2^e VERDIEPINGSVLOER

projekt: WATERTOREN ZUTPHEN	onderdeel: DETAILS	no: 82025	blad: 8
---------------------------------------	------------------------------	---------------------	-------------------



OPHANGING VLOERDRAGENDE PROFIELEN 3^e VERD.

projekt:
WATERTOREN ZUTPHEN

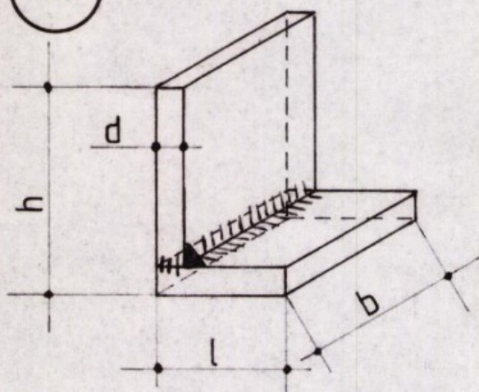
onderdeel:
DETAILS

no:
82025

blad:
9

OPLEGSCHOENEN

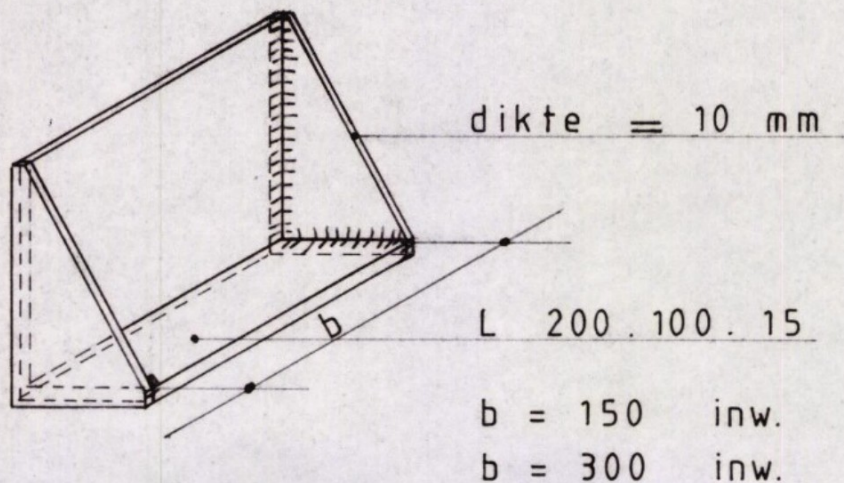
A



HOEK UIT TE VOEREN ALS
VOLLE LASVERBINDING

$b = 150 \text{ mm}$	$l = 135 \text{ mm}$	$h = 235 \text{ mm}$	$d = 35 \text{ mm}$
$b = 300 \text{ mm}$	$l = 125 \text{ mm}$	$h = 225 \text{ mm}$	$d = 25 \text{ mm}$

B



OPLEGSCHOEN NAAR KEUZE, AFHANKELIJK
VAN BESTAANDE TOESTAND

projekt:
WATERTOREN ZUTPHEN

onderdeel:
DE TAILS

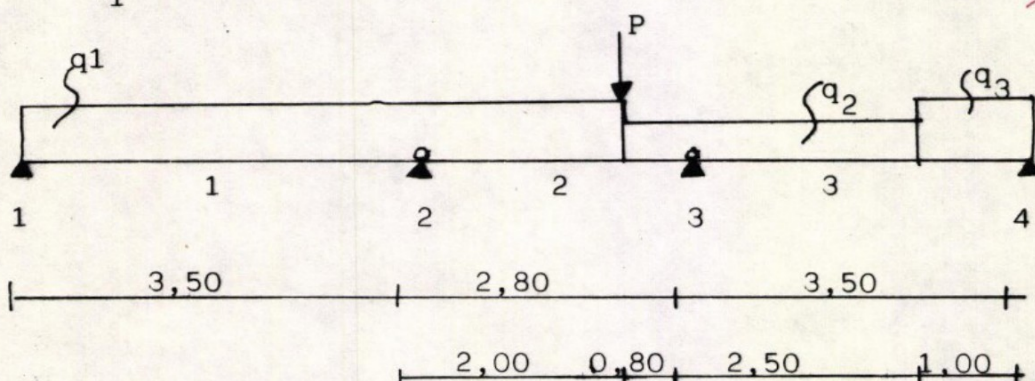
no:
82025

blad:
10

Stalen balken in Watertoren Zutphen.

Langs balken in centrum toren:

$$\begin{aligned}
 \text{Belasting door vloer} &= 4,20 \times 6,80 &= & 28,60 \text{ kn/m}^1 \checkmark \\
 \text{muur} &= 1/2 \times 2,60 \times 5,30 &= & 6,90 \text{ kn/m}^1 \checkmark \\
 \text{e.g. balk:} & &= & 0,40 \text{ kn/m}^1 \checkmark \\
 q_1 \text{ totaal} & &= & 35,90 \text{ kn/m}^1 \checkmark
 \end{aligned}$$



Knoop 2 en 3 zijn scharnieren.

$$\begin{aligned}
 q_1 &= 35,90 \text{ kn/m}^1 \\
 q_2 &= \text{vloer} = 2,00 \times 6,80 &= & 13,60 \text{ kn/m}^1 \checkmark \\
 &\text{balk} &= & 0,40 \text{ kn/m}^1 \checkmark \\
 &\text{muur} = 2,60 \times 4,00 &= & 10,40 \text{ kn/m}^1 \checkmark \\
 &\text{totaal} &= & 24,40 \text{ kn/m}^1 \checkmark
 \end{aligned}$$

$$\begin{aligned}
 q_3 &= \text{vloer} = 4,20 \times 6,80 &= & 28,60 \text{ kn/m}^1 \checkmark \\
 &\text{trap} = 1,20 \times 7,60 &= & 9,10 \text{ kn/m}^1 \checkmark \\
 &\text{balk} = &= & 0,40 \text{ kn/m}^1 \checkmark \\
 &\text{totaal} &= & 38,10 \text{ kn/m}^1 \checkmark
 \end{aligned}$$

P = metselwerk = totaal = 16,00 kn.

Zie computerblad 47 + 48

$$M_{\text{max.}} = \text{Veld 1} = 54,97 \text{ knm.} \checkmark \quad \checkmark 1.7 =$$

$$M_d = 82,46 \text{ knm.} \checkmark$$

$$\sigma_a = 192,20 \text{ n/mm}^2 \checkmark$$

Op balk 3 doken lassen (in het veld) derhalve geen kipgevaar.

ex BWT
ger. wr
11/5/84

project:

Zutphen

onderdeel:

stalen balken in watertoren

no.

82025

blad:

9

Opleggingen:

De balken worden d.m.v. oplegschoenen aan de bestaande betonkolommen bevestigd.

$$\text{Veld } 1: R_{\text{max.}} = 62,82 \text{ kn.} \checkmark$$

$$\text{Veld } 2: R_{\text{max.}} = 53,80 \text{ kn.} \checkmark$$

$$\text{Veld } 3: R_{\text{max.}} = 54,44 \text{ kn.} \checkmark$$

Alle opleggingen voorzien van gelijk oplegsysteem.

Bevestigd d.m.v. door-geboorde draadstangen.

4 ankers M 22. *h*

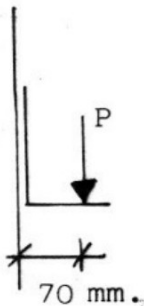
$$F_s \text{ totaal} = 62,82 + 53,80 = 116,62 \text{ kn.}$$

$$F_d = 1,5 \times = 174,93 \text{ kn.}$$

$$\text{Per anker} = 174,93/4 = 43,73 \text{ kn.}$$

$$\bar{F}_s \text{ M } 22 = 50,00 \text{ kn.} \quad (\text{staal } F_e \text{ 36}) \quad \checkmark$$

Opleg profiel:



$$P = 62,82 \text{ kn.}$$

$$M = 0,07 \times 62,82 = 4,40 \text{ knm.} \checkmark$$

$$M_d = 6,60 \text{ knm} \checkmark$$

$$W = 27,48 \text{ cm}^3 \quad \checkmark$$

Schoen breedte (a) = 150 mm: dikte = 35 mm. *h*

Schoen breedte (a) = 300 mm: dikte = 25 mm. *h*

Of:



L 200. 100. 15 met schoor schotjes aan weerszijden
balkprofiel. (schoorschotjes: d. = 10 mm)

Randbalken:

Bevestiging langs muur door middel van hoekprofiel

$$q = \text{vloer} = 1,75 \times 6,80 = 11,90 \text{ kn/m}^1$$

project:

Zutphen

onderdeel:

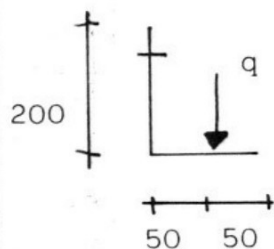
stalen balken in watertoren

no.

82025

blad:

10



$$M = 0,05 \times 11,90 = 0,60 \text{ knm/m}^1$$

$$M_d = 0,89 \text{ knm.}$$

$$W = 3,72 \text{ cm}^3/\text{m}^1$$

$$L = 200.100.10: W_{\text{flens}} = 16,67 \text{ cm}^3/\text{m}^1$$

Anker op 150 mm uit onderkant profiel.

$$F_t = 0,60/0,15 = 4,00 \text{ kn/m}^1$$

$$F_s = 11,90 + 0,23 = 12,10 \text{ kn/m}^1$$

Chemische ankers M 12 HoH 400 mm.

T.p.v. betonbalk in gevel op 3.00 + :

Bouten op 100 mm. uit o.k. profiel.

$$F_t = 0,60/0,10 = 6,00 \text{ kn/m}^1$$

$$F_s = 12,10 \text{ kn/m}^1$$

Chemische ankers M 12 HoH 400 mm.

Randbalken t.p.v. sparingen:

q= door vloer	= 1,75 x 6,80	= 11,90	kn/m ¹
door balkon	= 8,76/1,00	= 8,76	kn/m ¹
door metselwerk(detail)	=	0,80	kn/m ¹
Balk	=	0,30	kn/m ¹
totaal	=	21,76	kn/m ¹

$$M = 1/8 \times 2,80^2 \times 21,76 = 21,32 \text{ knm.}$$

$$M_d = 31,99 \text{ knm.} \quad W = 133 \text{ cm}^2$$

UNP 220.

Opleggingen: $R = 1,40 \times 21,76 = 30,46 \text{ kn.}$

Bevestiging met rug van profiel tegen de betonkolom.

2 ankers M 16 (chemisch)

Boorgat diepte 200 mm.

Kunsthars over 180 mm.

ADVIESBUREAU W.J.BRESSER b.v.

BETON- EN
COEHOORNS

Zutphen, 24 april 1984.

projekt:

Zutphen

onderdeel:

stalen balken in watertoren

no.

82025

blad:

11.

ONDERDEEL : STALEN BALKEN VERDIEPINGSVLOEREN

DIMENSIES : kN/m/Rad/K

DATUM : 24/04/1984

AANTAL STAVEN : 3

AANTAL KNOPEN : 4

AANTAL OPLEGGINGEN : 4

TOPOLOGIE

STAAF I	J	SCHARN	MT	X-BEGIN	Y-BEGIN	X-EINDE	Y-EINDE	LENGTE
		$\langle I \rangle$	$\langle J \rangle$					
1	1	2 ND-	ND-	-1	0.000	0.000	3.500	0.000 3.500 ✓
2	2	3 ND-	ND-	-1	3.500	0.000	6.300	0.000 2.800 ✓
3	3	4 ND-	ND-	-1	6.300	0.000	9.800	0.000 3.500 ✓

MATERIAALTABELLEN

TAB.	-A-	-I-	-E-	-S.G.-	profiel
1	4.590E-03 ✓	5.790E-05 ✓	2.100E+08	78.500	IPE270

RANDKONDITIONS

KNP	CODE	X-STIJFH.	Y-STIJFH.	Z-ROT/VR.
1	110			
2	010			
3	010			
4	010			

BELASTINGEN

BEL. GEVAL : 1 TOTAALLAST

TYPE	ST.	KN.	RI.	-P-	-P1-	MOMENT	-A-	-C-	LASTTYPE
1	1			-35.90 ✓					gel. haaks
5	2			-35.90	-35.90 ✓			2.00	alg. trap.
5	2			-24.40	-24.40 ✓		2.00 ✓	.80	„ „
2	2			-16.00			2.00 ✓		puntlast
5	3			-24.40	-24.40			✓ 2.50	alg. trap.
5	3			-38.10	-38.10 ✓		2.50 ✓	✓ 1.00	„ „

TUSSENpunTEN

B.G.	ST.	x	y-verpl.	N	D	M	
1	1	0.000	0.0000	0.00	62.82	0.00	*
1	1	0.350	-0.0017	0.00	50.26	-19.78	***
1	1	0.700	-0.0033	0.00	37.69	-35.18	*****
1	1	1.050	-0.0046	0.00	25.13	-46.17	*****
1	1	1.400	-0.0054	0.00	12.56	-52.77	*****
1	1	1.750	-0.0057	0.00	0.00	-54.97	*****
1	1	2.100	-0.0054	0.00	-12.56	-52.77	*****
1	1	2.450	-0.0046	0.00	-25.13	-46.17	*****
1	1	2.800	-0.0033	0.00	-37.69	-35.18	*****
1	1	3.150	-0.0017	0.00	-50.26	-19.78	***
1	1	3.500	0.0000	0.00	-62.82	0.00	*
1	2	0.000	0.0000	0.00	53.51	0.00	*
1	2	0.280	-0.0008	0.00	43.46	-13.57	***
1	2	0.560	-0.0015	0.00	33.41	-24.34	*****
1	2	0.840	-0.0021	0.00	23.36	-32.28	*****
1	2	1.120	-0.0025	0.00	13.30	-37.42	*****
1	2	1.400	-0.0026	0.00	3.25	-39.74	*****
1	2	1.680	-0.0025	0.00	-6.79	-39.24	*****
1	2	1.960	-0.0021	0.00	-16.84	-35.93	*****
1	2	2.240	-0.0015	0.00	-40.13	-26.30	*****
1	2	2.520	-0.0008	0.00	-46.97	-14.10	***
1	2	2.800	0.0000	0.00	-53.80	0.00	*
1	3	0.000	0.0000	0.00	44.65	0.00	*
1	3	0.350	-0.0013	0.00	36.11	-14.13	***
1	3	0.700	-0.0025	0.00	27.57	-25.28	*****
1	3	1.050	-0.0034	0.00	19.03	-33.43	*****
1	3	1.400	-0.0040	0.00	10.49	-38.60	*****
1	3	1.750	-0.0042	0.00	1.95	-40.78	*****
1	3	2.100	-0.0041	0.00	-6.58	-39.97	*****
1	3	2.450	-0.0035	0.00	-15.12	-36.17	*****
1	3	2.800	-0.0025	0.00	-27.77	-28.77	*****
1	3	3.150	-0.0013	0.00	-41.10	-16.72	***
1	3	3.500	0.0000	0.00	-54.44	0.00	*

REACTIES

B.G.	KNOOP	- X --	- Y --	- ROT --
1	1	0.0000	62.8250 ✓	0.0000
1	2	0.0000	116.3421	0.0000
1	3	0.0000	98.4599	0.0000
1	4	0.0000	54.4428 ✓	0.0000
		0.0000	332.0699	SOM VAN DE REACTIES/VEREN
		0.0000	-332.0700	SOM VAN DE BELASTING

adviesbureau W.J.BRESSER b.v.

Aanvullende berekening 2^e verdiepingsvloer in Watertoren te Zutphen.

Door aanpassing in hoogte verdeling i.v.m. te handhaven bestaande vloer (niet belast) wordt de vloerdikte t.p.v. de trapopgang verjongd tot 110 mm. t.p.v. de overige vloerdelen blijft de plaatdikte 150 mm.

$M_{\max.}$ aan plaatrand = knoop 48 = 12,46 knm. ✓

M_d = 21,18 knm.

b = 1000 mm.

h = 110 - 10 - 5 = 95 mm.

$\bar{f}_a = (7000 \times 95 / (0,75 \times 3200)) \times 1,7 = 471 \text{ n/mm}^2$

$A = 528 \text{ mm}^2$, *598 mm²*

o + b 6 ϕ 12/m, extra

6 ϕ 12 = 6 x 113 = 678

Zutphen, 7 juni 1984

ADVIESBU
BETON- EN
COEHOORNS

15. JUN. 1984

*ex BWT
gez. wr.*

projekt:

Zutphen

onderdeel:

Aanvullende berkening

no.

82025

blad:

12