

Comune di Alessandria
Via Luciano Raschio

VARIANTE

di PIANO ESECUTIVO CONVENZIONATO

Nuovo Borgo LA VESCOVA

approvato con deliberazione del C.C. n.5/363/106987 in data 21 gennaio 2002

Calcoli planovolumetrici

I proprietari
(per Idealcasa s.r.l.)
il legale rappr. Giovanni Pastore

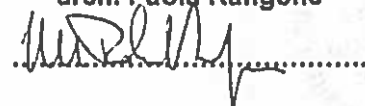
IDEALCASA S.R.L.
Piazza Garibaldi 91
14049 NIZZA MONFERRATO (AT)
Part IVA 01342870050

(per Immobiliare La Vescova s.r.l.)
il legale rappr. Natalina Bruni

Immob. - COVA s.r.l.
L'Amministratore Unico

Alessandria, 21/11/06

I progettisti
(per Studio Tecnico V. Rangone)
arch. Paola Rangone



(per ATRE STUDIO)
arch. Laura Grasso



Tipo A

Calcolo superfici

$$2,40 \times 2,40 = 5,76\text{mg}$$
$$(21,25 \times 11) + (3,00 \times 1,20) - (2,40 \times 2,40) =$$
$$233,75 + 3,60 - 5,76 = 231,59 \text{mg}$$

Calcolo Volume escluso piano mansardato

$$h_{\text{piano}} = 2,70 + 0,35 = 3,05$$

Altezza escluse mansarde= $3,05 \times 5 = 15,25 \text{ ml}$

$$231,59 \times 15,25 = 3.531,74 \text{ mc}$$

Calcolo Volume piano mansardato

h piano mansardato

$(h \text{ imposta } 1,40 + h \text{ colmo } 4,00) : 2 = h \text{ media } 5,40 : 2 = \mathbf{2,70 h \text{ media}}$

Superficie balconi e relative altezze

$$n^{\circ}2 \times (1 \times 4,35) = 8,70 \text{ mg}$$
$$h_{\text{media}} = (1,40 + 1,90) : 2 = 1,65$$
$$n^{\circ}1 \times (2 \times 4) = 8 \text{ mg}$$
$$h_{\text{media}} = (1,40 + 2,40) : 2 = 1,90$$
$$n^{\circ}1 \times (2 \times 4,70) = 9,40 \text{ mg}$$
$$h_{\text{media}} = (1,40 + 2,40) : 2 = 1,90$$

Volumi da detrarre

Volumi balconi

$$8,70 \times 1,65 = 14,35 \text{ mc}$$
$$8 + 9,40 = 17,40 \times 1,90 = 33,06 \text{ mc}$$

Volume da sottrarre al vano scala (piano mansardato h 2,40)

$$(3 \times 6,70) \times 0,30 = 6,03 \text{ mc}$$

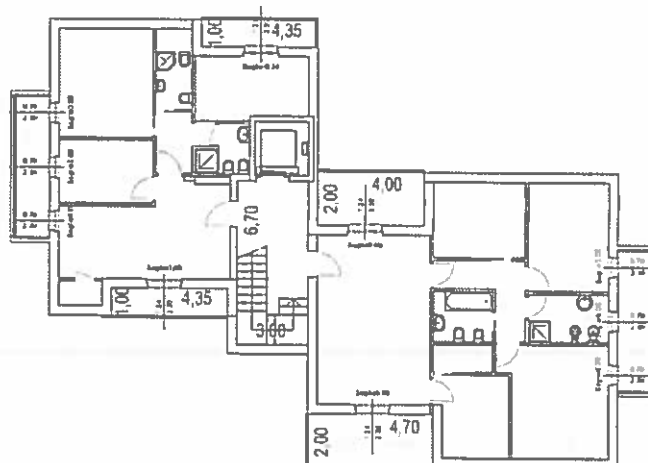
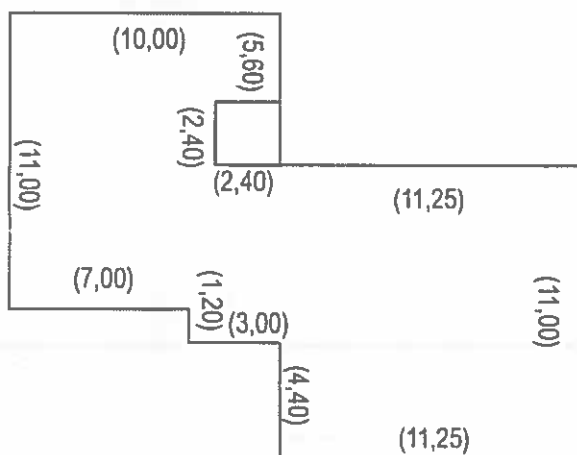
Superficie piano **231,59 mq**

Volume piano mansardato

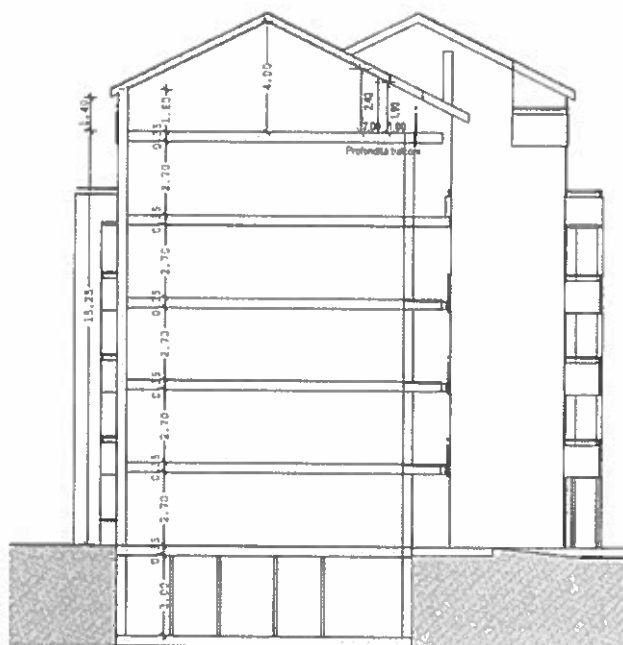
(Piano tipo x h media 2,70)-(volume balconi+volume da sottrarre v. scala 2,40)

$$(231,59 \times 2,70) - (14,35 + 33,06 + 6,03) =$$
$$625,29 - (47,41 + 6,03) = 571,85 \text{ mc}$$
VOLUME TOTALE TIPO A
$$3.531,74 + 571,85 = 4.103,59 \text{ mc}$$

PIANO TERRENO = PIANO TIPO



Sc.1:200



LOTTO 2

Tipo A + Tipo B

5 PIANI FUORI TERRA

TIPO B

Calcolo superfici

Superficie vano tecnico ascensore $(2,40 \times 2,40) = 5,76 \text{ mq}$

Superficie muro comune $(0,35 \times 5,35) = 1,87 \text{ mq}$

Superficie di piano tipo

$(20 \times 11) + (5,10 \times 1,05) - (5,76 + 1,87) = 220,00 + 5,35 - 7,63 =$

217,72mq

$225,35 \text{ mq} - \text{superficie vani tecnici e superficie muro comune} = 217,72 \text{ mq}$

Calcolo Volume escluso piano mansardato

Volume escluso piano mansardato

$h \text{ piano} = 2,70 + 0,35 = 3,05 \text{ ml}$

Altezza escluse mansarde $= 3,05 \times 5 = 15.25 \text{ ml}$

$217,72 \times 15,25 = 3.320,23 \text{ mc}$

Volume escluso piano mansardato **3.320,23 mc**

Calcolo volume piano mansardato

$h \text{ piano mansardato}$

$(h \text{ imposta } 1,40 + h \text{ colmo } 4,00):2 = h \text{ media } 5,40:2 = 2,70 \text{ ml}$

Superficie balconi e relative altezze

$n^{\circ}2 \times (2 \times 3,35) = 13,40 \text{ mq}$

$h \text{ media} = (1,40+2,40):2 = 1,90$

$n^{\circ}2 \times (2 \times 4,70) = 18,80 \text{ mq}$

$h \text{ media} = (1,40+2,40):2 = 1,90$

Volumi da detrarre

Volumi balconi

$13,40 + 18,80 = 32,20 \times 1,90 = 61,18 \text{ mc}$

Volume da sottrarre al vano scala (piano mansardato $h \text{ } 2,40$)

$[(5,10 \times 5,60) - (2,40 \times 2,40)] \times 0,30 = (28,56 - 5,76) \times 0,30 =$

$22,80 \times 0,30 = 6,84 \text{ mc}$

Superficie piano 217,72

Volume piano mansardato

$(\text{Piano tipo} \times h \text{ media } 2,70) - (\text{volume balconi} + \text{volume da sottrarre v. scala } h \text{ } 2,40)$

$(217,72 \times 2,70) - (61,18 + 6,84) = 587,84 - 68,02 = 519,82 \text{ mc}$

VOLUME TOTALE TIPO B

$3.320,23 + 519,82 = 3.840,05 \text{ mc}$

VOLUME TOTALE LOTTO 2 (Volume tipo A + Volume tipo B)

$4.103,59 + 3.840,05 = 7.943,64 \text{ mc}$

LOTTO 2

The diagram shows a stepped boundary for LOTTO 2. The boundary starts with a vertical segment of 11,00 on the left, followed by a horizontal segment of 11,25. A vertical segment of 5,60 leads to a horizontal segment of 10,00. Another vertical segment of 5,65 leads to a horizontal segment of 6,90. A final vertical segment of 1,05 leads to a horizontal segment of 8,00. The total vertical height on the right is 11,00. Two shaded rectangular areas are present: one with dimensions (2,40) by (2,40) and another with dimensions (4,35) by (9,65). Various other dimensions are labeled along the boundary and within the shaded areas.

PIANO TERRENO

PIANO TIPO= PIANO TERRENO + ANDRO

PIANO TIPO= PIANO TERRENO + ANDRONE

PIANO MANSARDATO

[illegible]

Sc.1:200

LOTTO 3

4 x (Tipo B + Volume muro comune)

5 PIANI FUORI TERRA

Calcolo volume muro comune

Superficie $5,35 \times 0,35 = 1,87 \text{ mq}$

$h \text{ edificio} = h \text{ edificio escluso mansarde} + h \text{ media mansarde} =$
 $15,25 + 2,70 = 17,95 \text{ ml}$

Volume $= 1,87 \times 17,95 = 33,56 \text{ mc}$

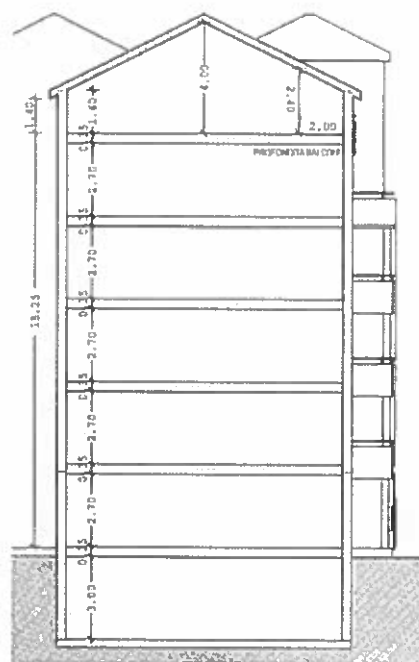
Calcolo volume totale

$4 \times (\text{Tipo B} + \text{muro comune}) =$

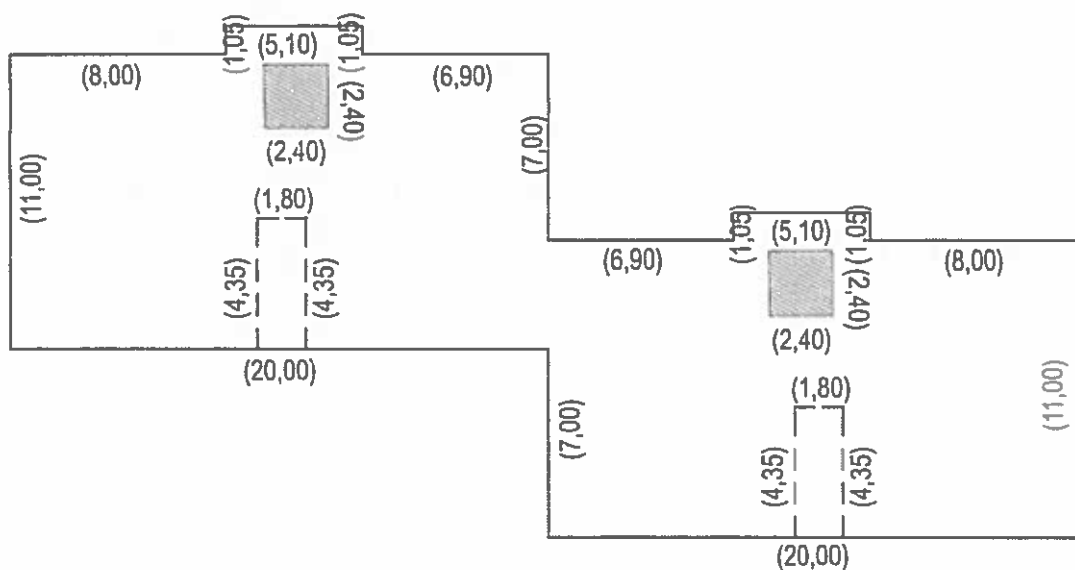
$4 \times (3.840,05 + 33,56) =$

VOLUME TOTALE $4 \times 3.873,61 = 15.494,44 \text{ mc}$

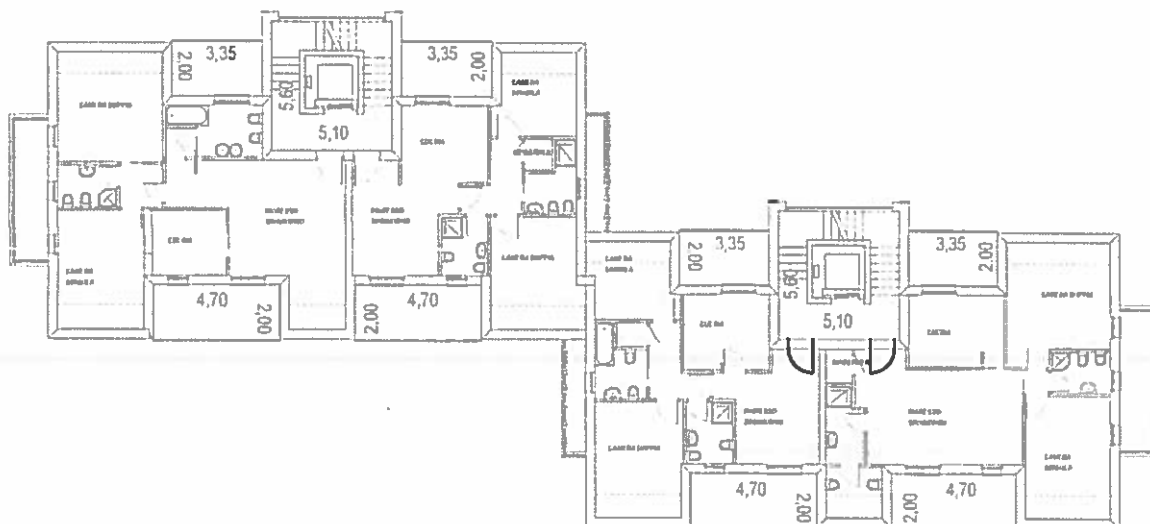
SEZIONE



PIANO TIPO= PIANO TERRENO + ANDRONE



PIANO MANSARDATO



Sc.1:200

LOTTO 4

2 x (Tipo B + Volume muro comune - volume balconi rientranti)

5 PIANI FUORI TERRA

Calcolo volume muro comune

Superficie $5,35 \times 0,35 = 1,87 \text{ mq}$

h edificio = h edificio escluso mansarde + h media mansarde =
 $15,25 + 2,70 = 17,95 \text{ ml}$

Volume = $1,87 \times 17,95 = 33,56 \text{ mc}$

Calcolo volume balconi rientranti

Superficie $2 \times (1 \times 2,70) = 5,40 \text{ mq}$

h edificio escluso mansarde = $15,25 \text{ ml}$

Volume $(5,40 \times 15,25) = 82,35 \text{ mc}$

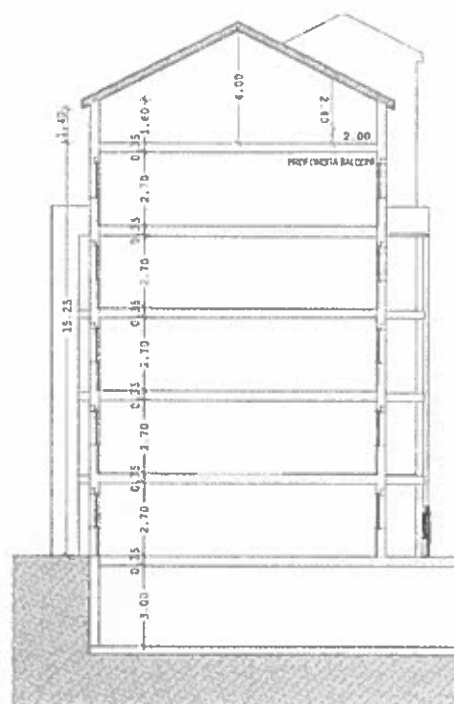
Calcolo volume totale

$2 \times (\text{Tipo B} + \text{muro comune} - \text{volume balconi rientranti}) =$

$[2 \times (3.840,05 + 33,56)] - 82,35 = 7.747,22 - 82,35 = 7.664,87 \text{ mc}$

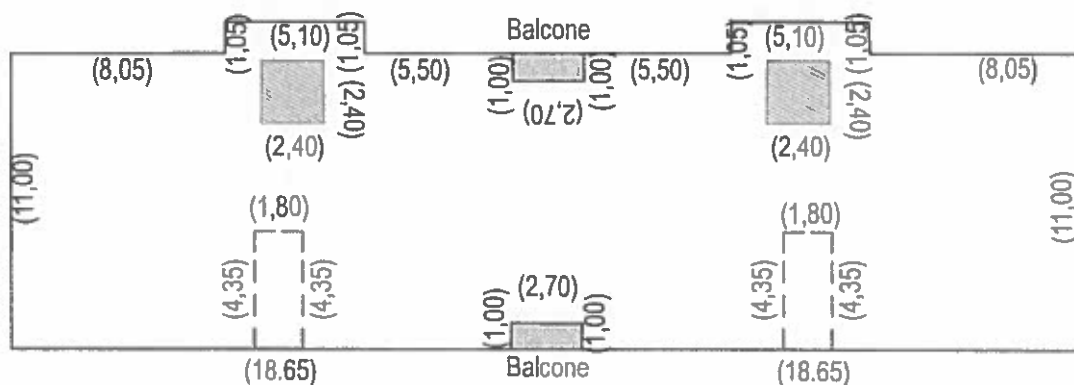
VOLUME TOTALE = 7.664,87 mc

SEZIONE

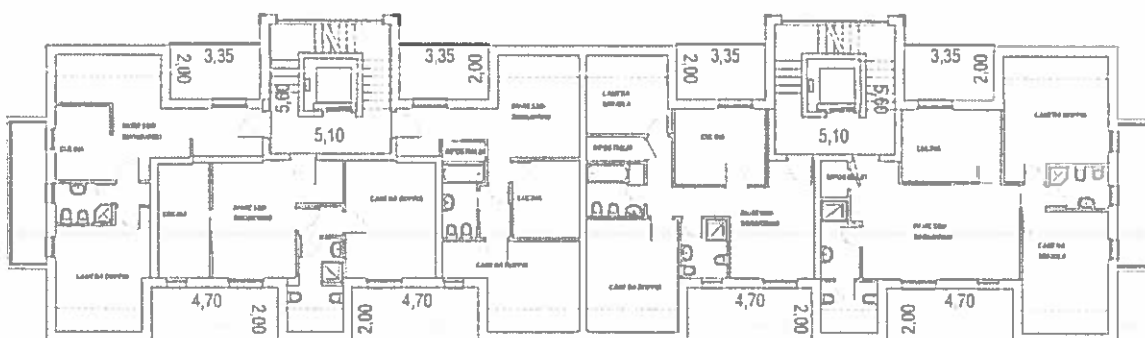


PIANO TERRENO

PIANO TIPO= PIANO TERRENO + ANDRONE

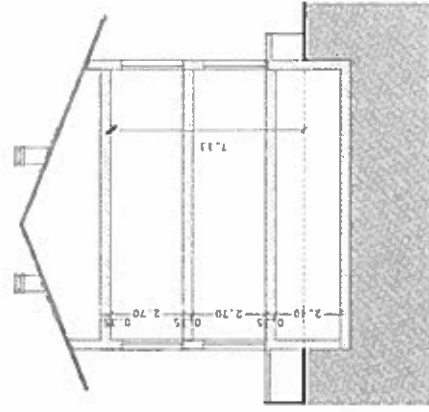


PIANO MANSARDATO



Sc.1:200

SEZIONE



LOTTO 5

N° 9 VILLE A SCHIERA

Superficie di piano
 $3 \times (18,17 \times 10,75) = 585,98 \text{ mq}$

VOLUME TOTALE = $585,98 \times 7,13 = 4.178,03 \text{ mc}$

PIANO TERRENO

(18,17)	(10,75)	(10,75)	(18,17)	(10,75)	(18,17)	(10,75)
(18,17)	(10,75)	(10,75)	(18,17)	(10,75)	(18,17)	(10,75)

Sc.1:200

LOTTO 6

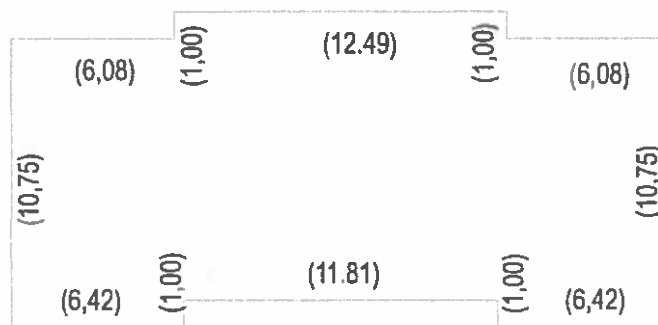
N° 4 VILLE A SCHIERA

Superficie di piano

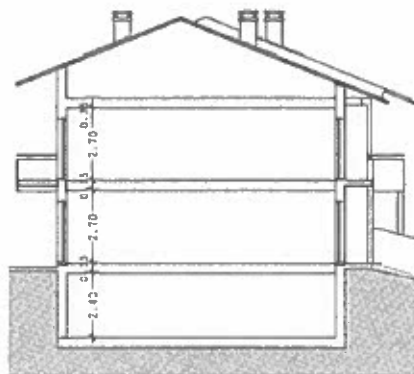
$$24,65 \times 10,70 = \mathbf{264,98 \text{ mq}}$$

$$\mathbf{VOLUME \text{ TOTALE} = 264,98 \times 5,75 = 1.523,64 \text{ mc}}$$

PIANO TERRENO



SEZIONE



Sc.1:200

Tipo A + Tipo B - volume piano tipo (A+B)

TIPO A = volume **4.103,59 mc**

TIPO B = volume **3.840,05 mc**

Superficie vano tecnico ascensore

$$2,40 \times 2,40 = 5,76 \text{mq}$$

Superficie di piano tipo

$$(21,25 \times 11) + (3,00 \times 1,20) - (2,40 \times 2,40) =$$

$$233,75 + 3,60 - 5,76 = 231,59 \text{ mg}$$

Superficie vano tecnico ascensore (2,40 x 2,40) = **5,76 mq**

Superficie muro comune (0,35 x 5,35) = **1,87 mq**

Superficie di piano tipo

$$(20 \times 11) + (5,10 \times 1,05) - (5,76 + 1,87) = 220,00 + 5,35 - 7,63 = 217,72 \text{ mg}$$

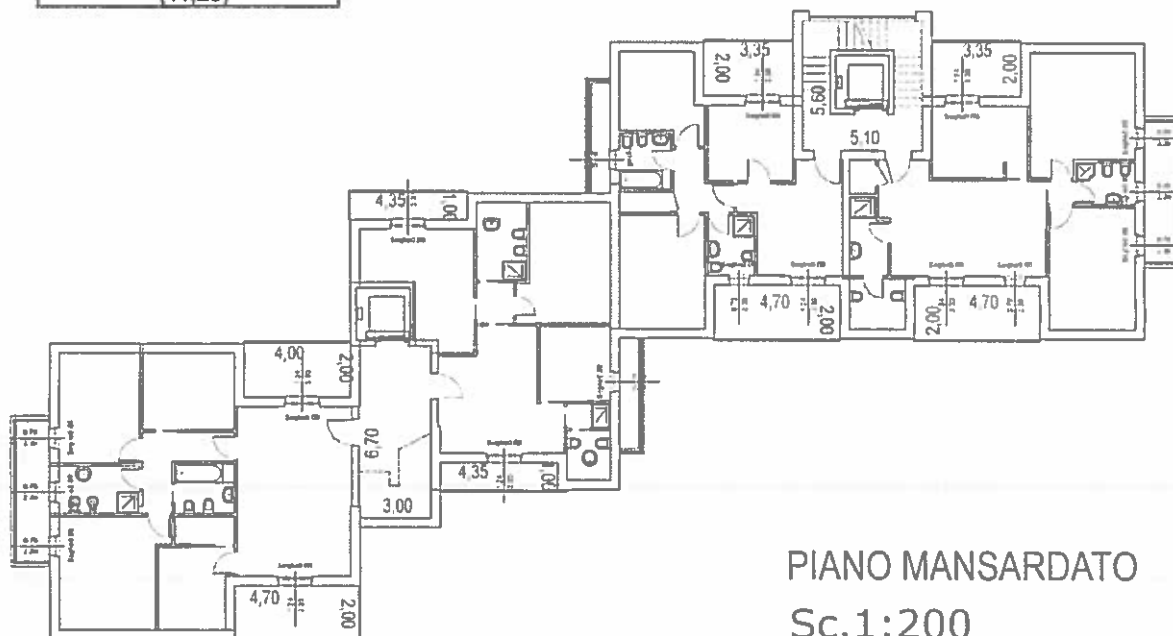
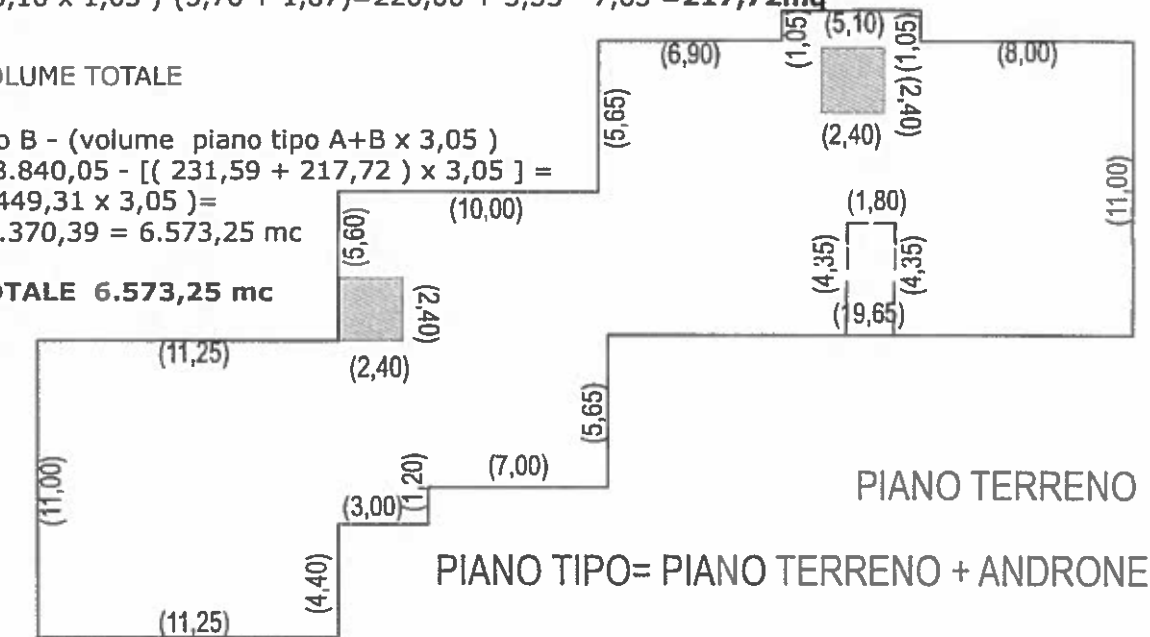
Tipo A + Tipo B - (volume piano tipo A+B x 3,05)

$$4.103,59 + 3.840,05 - [(231,59 + 217,72) \times 3,05] =$$

$$7.943,64 - (449,31 \times 3,05) =$$

$$7.943,64 - 1.370,39 = 6.573,25 \text{ mc}$$

VOLUME TOTALE 6.573,25 mc



PIANO MANSARDATO
Sc.1:200

Tipo A + Tipo B - volume 2 piano tipo (A+B)

3 PIANI FUORI TERRA

TIPO A = volume **4.103,59 mc**

TIPO B = volume **3.816,17 mc**

Calcolo superfici TIPO A

Superficie vano tecnico ascensore

$$2,40 \times 2,40 = 5,76mq$$

Superficie di piano tipo

$$(21,25 \times 11) + (3,00 \times 1,20) - (2,40 \times 2,40) =$$

$$233,75 + 3,60 - 5,76 = 231,59 \text{mq}$$

Calcolo superfici TIPO B

Superficie vano tecnico ascensore (2,40 x 2,40) = 5,76 mq

Superficie muro comune (0,35 x 5,35) = **1,87 mq**

Superficie di piano tipo

$$(20 \times 11) + (5,10 \times 1,05) - (5,76 + 1,87) = 220,00 + 5,35 - 7,63 = 217,72 \text{ mg}$$

CALCOLO VOLUME TOTALE

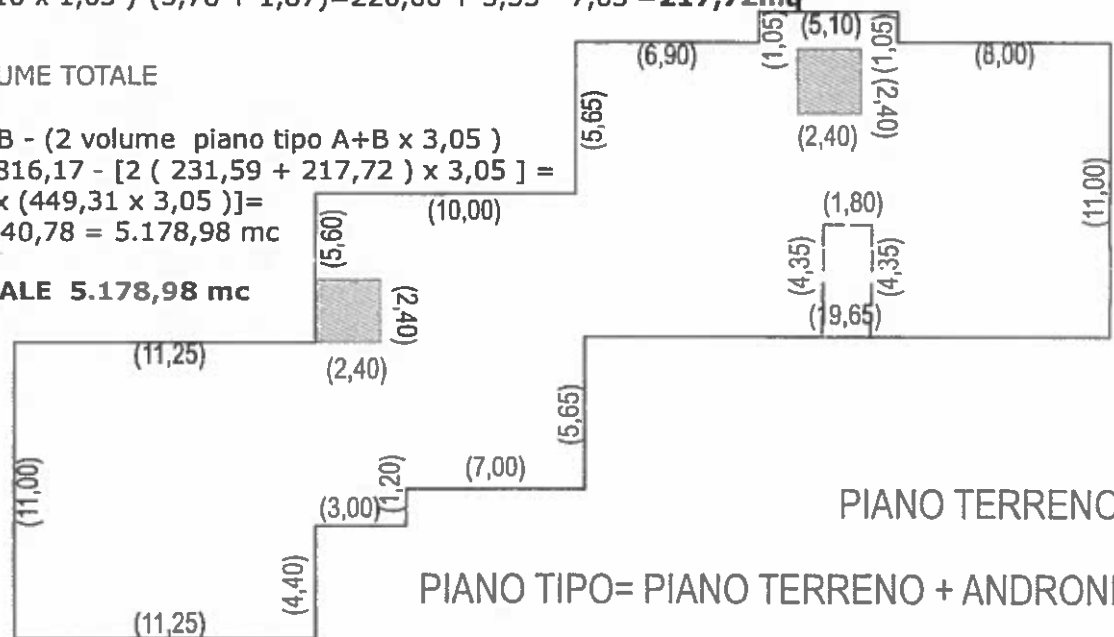
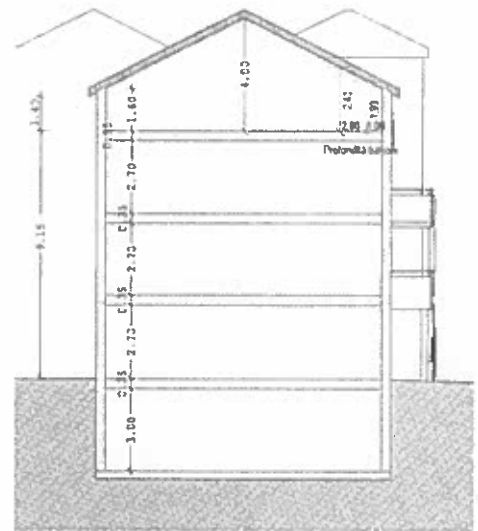
Tipo A + Tipo B - (2 volume piano tipo A+B x 3,05)

$$4.103,59 + 3.816,17 - [2 (231,59 + 217,72) \times 3,05] =$$

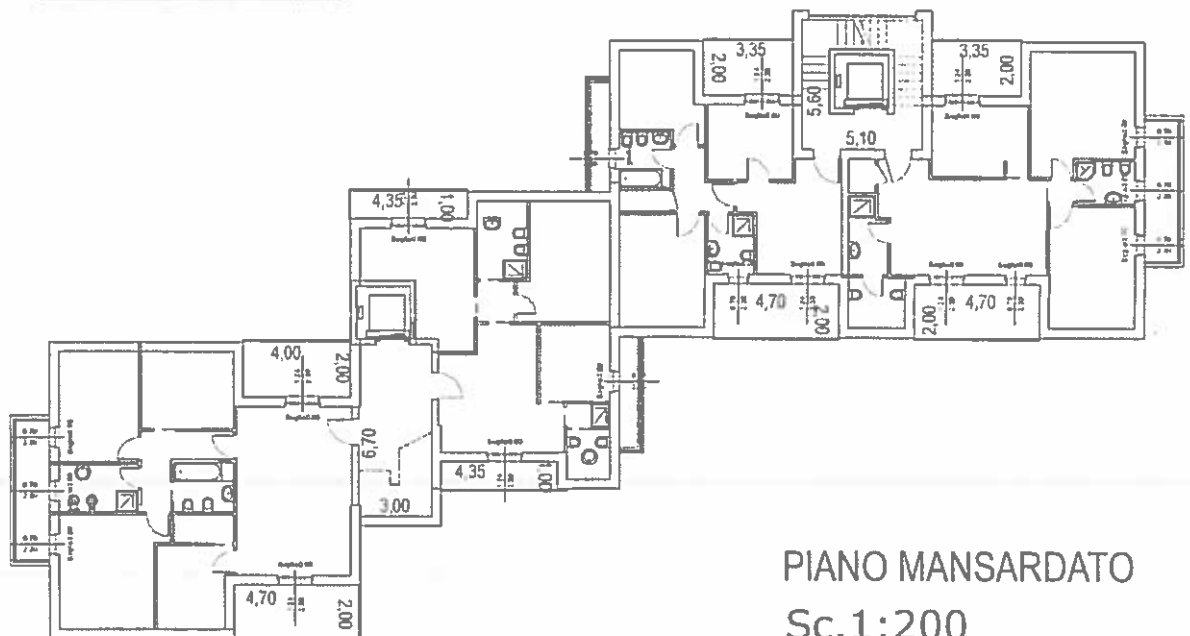
$$7.919,76 - [2 \times (449,31 \times 3,05)] =$$

$$7.919,76 - 2.740,78 = 5.178,98 \text{ mc}$$

VOLUME TOTALE 5.178,98 mc



PIANO TIPO= PIANO TERRENO + ANDRONE



Sc.1:200

LOTTO 8b

4 PIANI FUORI TERRA

Calcolo superfici

Superfici vani tecnici ascensori $2 \times (2,40 \times 2,40) = 11,52 \text{ mq}$

Superficie balconi rientranti $2 \times (1,00 \times 2,70) = 5,40 \text{ mq}$

Superficie di piano tipo

$(40 \times 11) + [2 \times (5,10 \times 1,05)] - (11,52 + 5,40) =$
 $440,00 + 10,71 - 16,92 = 433,79 \text{ mq}$

Superficie piano terreno

Superfici vani tecnici ascensori $2 \times (2,40 \times 2,40) = 11,52 \text{ mq}$

Superficie androni $2 \times (7,00 \times 1,80) = 25,20 \text{ mq}$

$(40 \times 11) + [2 \times (5,10 \times 1,05)] - (25,20 + 11,52) =$
 $440,00 + 10,71 - 36,72 = 413,99 \text{ mq}$

Calcolo Volume escluso piano mansardato

Volume piano terreno

$h \text{ piano} = 3,50 + 0,35 = 3,85 \text{ ml}$

$(413,99 \times 3,85) = 1.593,86 \text{ mc}$

Volume 3 piani tipo

$h \text{ piano} = 2,70 + 0,35 = 3,05 \text{ ml}$

$3 \times (433,79 \times 3,05) = 3.969,18 \text{ mc}$

Volume escluso piano mansardato

Volume piano terreno + Volume 3 piani tipo

$1.593,86 + 3.969,18 = 5.563,04 \text{ mc}$

Calcolo volume piano mansardato

$h \text{ piano mansardato}$

$(h \text{ imposta } 1,40 + h \text{ colmo } 4,00) : 2 = h \text{ media } 5,40 : 2 = 2,70 \text{ ml}$

Superficie di piano tipo

$(40 \times 11) + [2 \times (5,10 \times 1,05)] - (2 \times 5,75) =$
 $440 + 10,71 - 11,50 = 439,21 \text{ mq}$

Superficie balconi e relative altezze

$n^{\circ}4 \times (2 \times 3,35) = 26,80 \text{ mq}$

$h \text{ media} = (1,40 + 2,40) : 2 = 1,90$

$n^{\circ}4 \times (2 \times 4,70) = 37,60 \text{ mq}$

$h \text{ media} = (1,40 + 2,40) : 2 = 1,90$

Volumi da detrarre

Volumi balconi

$(26,80 + 37,60) \times 1,90 = 64,40 \times 1,90 = 122,36 \text{ mc}$

Volume da sottrarre al vano scala (piano mansardato $h \text{ } 2,40$)

$2 \times [(5,10 \times 5,60) - (2,40 \times 2,40)] \times 0,30 = 2 \times (28,56 - 5,76) \times 0,30 =$

$2 \times (22,80 \times 0,30) = 13,68 \text{ mc}$

Volume piano mansardato

$(\text{Piano tipo} \times h \text{ media } 2,70) - (\text{volume balconi} + \text{volume da sottrarre v. scala } h \text{ } 2,40)$

$(439,21 \times 2,70) - (122,36 + 13,68) =$

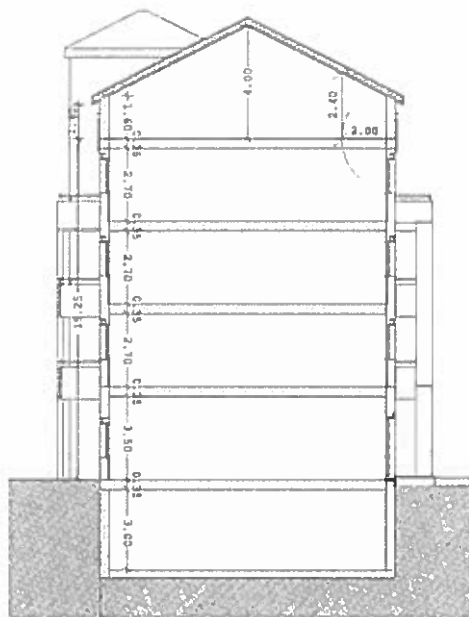
$1.185,86 - 136,04 = 1.049,83 \text{ mc}$

VOLUME TOTALE

Volume escluso piano mansardato + Volume piano mansardato

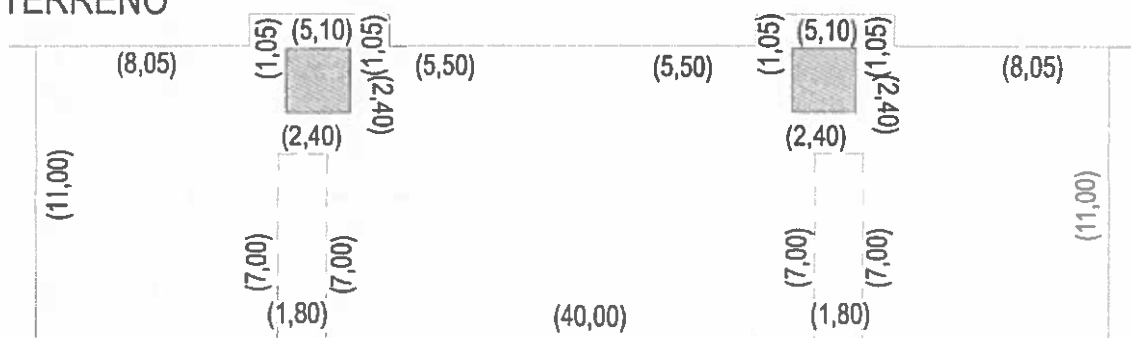
$5.563,04 + 1.049,83 = 6.612,87 \text{ mc}$

LOTTO 8b

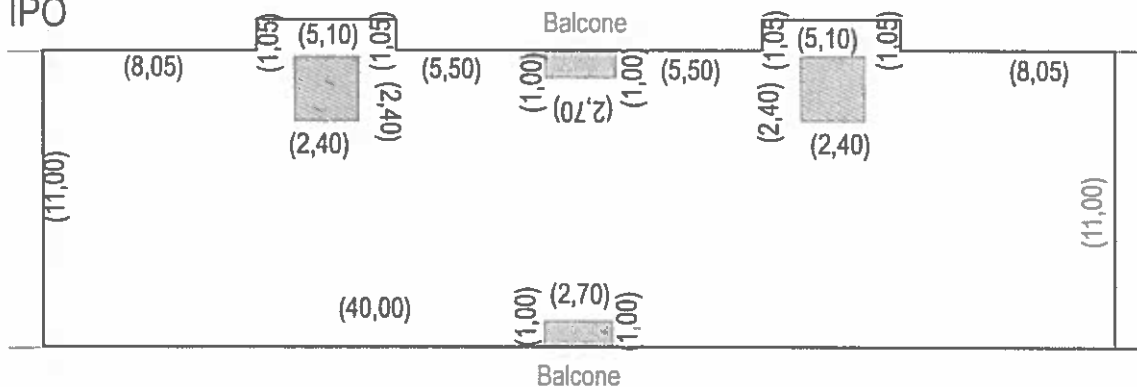


SEZIONE

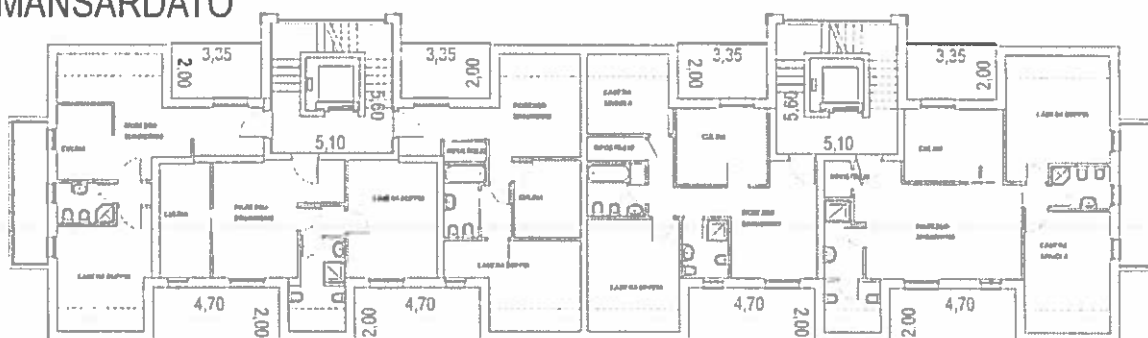
PIANO TERRENO



PIANO TIPO



PIANO MANSARDATO



Sc.1:200

RIEPILOGO GENERALE

CONTEGGI VOLUMI TOTALI

Lotto 1	Volume	4.103,59 mc
Lotto 2	Volume	7.943,64 mc
Lotto 3	Volume	15.494,44 mc
Lotto 4	Volume	7.664,87 mc
Lotto 5	Volume	4.178,03 mc
Lotto 6	Volume	1.523,64 mc
Lotto 7	Volume	6.573,25 mc
Lotto 8a	Volume	5.178,98 mc
Lotto 8b	Volume	6.612,87 mc

Volume totale di progetto **59.273,31 mc**

Volumetria di PEC possibile **59.276,00mc**

59.276,00mc > 59.273,31 mc

Avanzano = **mc 2,69**